

PROCESSOR

Products, News & Information Data Centers Can Trust. Since 1979

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COVER FOCUS

Spotlight On Smaller Manufacturers

We highlight smaller manufacturers you need to be aware of in several key areas.

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Defending The Data Center Budget

What tactics, strategies, and tips can you use to defend your data center budget from drastic changes? Coverage begins on page 24.



TECH & TRENDS

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- Every company is going to have **email downtime** now and again. It's a matter of managing your planned downtime and minimizing your unplanned downtime. We offer some tips to help you do bothpage 32
- The risks involved with **SQL injection attacks** are extensive, potentially reaching far beyond the realm of stolen data due to the ability of hackers to deface or modify Web sites or infect sites with malicious scripts that can then infect visitors' computerspage 33

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- The Department of Energy is in the process of handing out its first **alternative-energy loan**page 36
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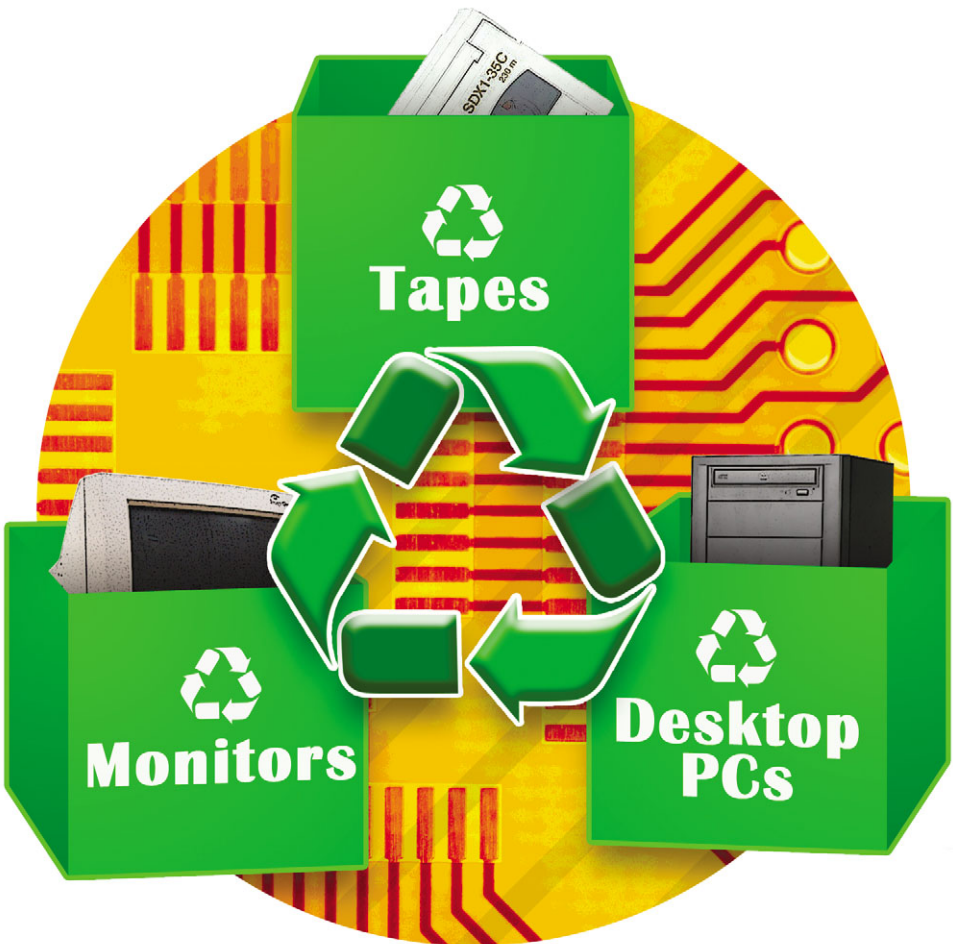
Relief From Recycling Woes

These IT Recyclers Ease The Headaches That Come With Ditching Old, Unused Equipment

by Christian Perry

IF THERE'S ONE guarantee that comes with running a data center, it's that equipment will eventually grow obsolete or otherwise

continues today as companies look for a quick way to unload unused equipment. However, Recycle Your Media (888/757-8273; www.recycleyourmedia.com), created for the purpose of deterring e-waste in



useless. As government regulations surrounding the disposal of IT equipment and media become ever more stringent, data centers are now challenged to find dependable, trustworthy recyclers they can turn to throughout the year. Here's a glimpse at several such companies that are aware of those challenges and are increasingly providing flexible options for data centers across the country.

Recycle Your Media

The environmental hazards involved with dumping e-waste in landfills are well-documented, but the practice nonetheless

landfills, is looking to stem the tide. By using the company's recycling services, data centers can fill their pockets instead of filling landfills.

"We realized that there needs to be a solution that is ecologically sensible, technologically reliable, and economically viable," says Brian Musil, senior storage acquisitions manager for Recycle Your Media. "Recycle Your Media allows customers to recycle their unwanted, used, or obsolete storage media. Used tape that is not physically damaged and has not exceeded its end of useful life can

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Top Security Exploits & How To Protect Yourself

Multilayered Security Strategies Can Reduce The Risk Of Attack

by Elizabeth Millard

SECURITY FIRM THREAT reports read like battleground summaries, with new invaders being launched toward fortified defenses on a seemingly daily basis.

Although there are no new innovations in the threat landscape—experts note that tried-and-true attacks such as Trojans and social engineering still dominate—there are fresh trends that data center managers should keep in mind when crafting their security strategies.

According to a February report from security firm Fortinet (www.fortinet.com), 117 new vulnerabilities were detected, up from 43 in the company's January report.

Key Points

- Web 2.0 technologies are inspiring more attackers than ever, with about 20,000 pieces of malware launched in 2008 alone.
- Attackers are likely to target data warehouses and Web-based applications more frequently in the future, for financial gain.
- SMEs need a multilayered security strategy that involves an integrated appliance approach and application security.

Two high-profile exploits affected Microsoft Excel and Adobe Reader, two of the most commonly used programs in corporate environments, as well as by home users (for more report results, see the "Fortinet Findings" sidebar on page 6). Although threats ranged from phishing emails to new botnet activity, there are some general trends worth watching, experts note.

On The Attack

With the economic downturn, attacks have made a fundamental shift toward financial gain, which means enterprises are more likely to be targeted than ever, states Anthony James, vice president of products at Fortinet.

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NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

Google Launches Venture Capital Fund

Google announced that it will create a venture capital subsidiary that will invest up to \$100 million in high-tech startups over the next year. The fund, called Google Ventures, will focus on startups in areas such as the Internet, clean technology, life sciences, and health care. David Drummond, Google's senior vice president of corporate development and chief legal officer, will oversee the project. Google Ventures has reportedly invested in two projects so far: Silver Spring Networks, which makes technology used to manage electric grids, and Pixazza, which links online pictures with related products that can then be purchased.

Labourey Out As CTO Of JBoss

Sacha Labourey, CTO of Java application server vendor JBoss, announced late last month that he will be leaving the company soon. An exact reason for his departure was not given, although he expressed a need to see JBoss become a success before leaving. Labourey will continue on as a contractor for Red Hat (which acquired JBoss in 2006), and Mark Little, JBoss' SOA strategist, will step in as his replacement. Labourey had been with JBoss since 2001.

Couple Sues Acer Over Notebook's Performance

An Ohio couple has sued Acer, the world's third largest computer maker, over the performance of its Aspire notebook. The couple pur-



chased an Aspire 4520-5458 notebook from Wal-Mart for \$568 that ran Windows Vista Home Premium and included 1GB of RAM and an Nvidia GeForce 610M integrated graphics chipset. According to the suit, the computer "would not run properly" and would freeze or crash when it tried to run Vista. The lawsuit accuses Acer of deceiving customers by claiming that laptops can run Windows Vista with only 1GB of memory, and it charges the computer maker with breach of warranty, fraud, and violations of California and federal consumer protection laws.

Report Shows Online Advertising Sluggish, But Still Growing

Spending on online advertising in the United States decelerated in 2008 but continued to grow nonetheless, according to the 2008 Internet Advertising Revenue Report sponsored by the Interactive Advertising Bureau and conducted by PricewaterhouseCoopers. According to information from The Nielsen Company, \$23.4 billion was spent on U.S. online ads in 2008, which is a 10.6% leap compared with 2007. However, growth in overall U.S. ad spending shrank 2.6% in 2008. So far, online ads have seemed to survive the economic collapse and are faring better than other types of advertising.

Microsoft, TomTom Reach Settlement

Microsoft and TomTom have reached an agreement regarding their conflicting patent infringement cases, resolving what was Microsoft's first Linux patent-related lawsuit against another company. Microsoft sued

TomTom for eight patent infringements of the Linux kernel, and TomTom will now have to pay Microsoft an unspecified amount of money to cover each patent. TomTom also dropped its countersuit against Microsoft for violating four of its own navigation technology patents. TomTom will have to remove the functionality provided by the three file management systems patents, known as the FAT LFN patents, within two years. These patents are designed to increase the efficiency of naming, organizing, storing, and accessing file data.

Google Cuts 200 Jobs . . .

Google announced that it plans to cut about 200 sales and marketing positions worldwide. Omid Kordestani, senior vice president of global sales and business development, said



in a blog post that the company considered many options for reducing costs, but in the end, the cuts are necessary. Kordestani also said that Google will give affected employees a chance to find another position within Google or offer outplacement support and severance pay. In January, Google cut 100 recruiting jobs; ended six services, including Google Catalog Search, Google Notebook, and the ability to upload Google Video; and closed three offices in Texas, Norway, and Sweden.

. . . But Plans To Hire After Layoffs

Despite the planned 200 layoffs, Google is still hiring to fill about 360 jobs, from software engineers to sales and marketing positions. Google claims the layoffs were due to over-hiring in certain areas of the company, and spokesman Matt Furman adds that overlapping in one part of the company doesn't eliminate the need for workers in another part of the company. About half of the 360 job openings are located in the United States, and the others are available in places such as Ireland and Australia.

Solid-State Drives Gain Traction

A number of recent financial investments are strengthening solid-state technology's place in the storage market. Western Digital's \$65 million acquisition of SiliconSystems is just one example; another SSD maker, Pliant Technology, received \$15 million in funding recently. Although Pliant has been delivering enterprise-class drives since last year, the fresh capital enables it to significantly ramp up production. Samsung, Hitachi GST, and Intel are all working on enterprise-class SSDs and flash technology, as well.

IE8's Preliminary Market Share Comes At Expense Of IE7

Web analysis firm Net Applications has reported its browser stats for the week following the launch of Microsoft's latest offering, Internet Explorer 8. In IE8's first week, the browser accounted for 2.55% of all browsers that accessed tracked sites, but IE8's share comes almost strictly at the expense of IE7, which fell 2.4%. Even the IE6 share slipped slightly from 18.85% in February to 18.28%. By the end of March, IE8's share was up to 3%. Mozilla's Firefox and Apple's Safari browser shares were mostly unaffected by the launch of IE8.



Forrester Once Again Lowers IT Spending Forecast

According to new predictions from Forrester Research, IT spending in the United States will continue to decline in correlation to the economic downturn. The firm now reports that U.S. tech spending will fall by 3.1% in 2009 compared to last year, which is significantly different from the previously forecasted 1.6% increase. Forrester Research points out the 2 to 3% drop in GDP in most recent recessions compared to the current 6% GDP decline reported for Q4 2008; a similar decline is expected for Q1 2009. Forrester expects the U.S. economy to begin to recover in late 2009, after which IT spending should rebound. The latest adjustment marks the fourth consecutive quarter Forrester has lowered its forecasts.

Nvidia Responds To Intel With Processor Countersuit

On Feb. 19, Intel sued Nvidia, claiming that the graphics chip maker broke contract by promoting chipsets for Intel Nehalem-class processors. Now, Nvidia has filed a countersuit against Intel, asserting that Intel breached its contract when the company didn't give Nvidia a chipset license. The two companies originally signed a license agreement in 2004 that gave Nvidia permission to produce Intel chipsets; however, Intel claims that Nvidia is not allowed to market integrated memory controllers. According to this same license, Intel was able to make chipsets with SLI technology from Nvidia.

Legislation Calls For Inventory Of Airwaves

Senators John Kerry and Olympia Snowe have introduced legislation that promises to be a comprehensive assessment of how best to use the public radio spectrum. Called the Radio Spectrum Inventory Act, the bill is also sponsored by Senators Bill Nelson and Roger Wicker. The legislation asked the National Telecommunications and Information Administration and the Federal Communications Commission to take an inventory of the wireless spectrum within 180 days. If the bill passes, the two groups will report on the use of all spectrum bands between 300MHz and 3.5GHz, including information on the licenses or government user operating in each band.

Microsoft Faces Another Patent Suit

BackWeb Technologies is filing suit against Microsoft over its BITS (Background Intelligent Transfer Service), Windows Update, and other Microsoft update tools. BackWeb provides a range of communications and



technologies for enterprises to distribute digital information and assets to employees and customers. BackWeb is asserting that the update tools infringe upon four of BackWeb's patents, and it seeks an injunction against Microsoft, a declaration that BackWeb's patents are valid, and monetary damages. The lawsuit was filed on March 20 in San Francisco.

Also In This Issue...

TECH & TRENDS

- Many data center locations are turning to **outside air**, also known as free air or free cooling, to provide equipment cooling at a cost savings.....**page 36**
- The decisions don't stop after you decide to use a **hosted data center**. Now you have to decide whether the site should be local or at least close enough to allow site visits, or farther away in case of disaster**page 37**
- Mention the terms **backup and recovery**, and you are almost assured a grimace or roll of the eyes from even the most organized IT administrator**page 38**

TIPS & HOW TO

- There is no time like the present for finding great deals on **second-hand gear**. Business in used equipment is booming.....**page 28**
- In a data center, moving targets are always the hardest to track. With **cloud computing**, not only is the target "moving" and evolving, but it's also often hard to define**page 28**
- Modern data centers are typically immune from seasonal temperature changes. But regardless of the age of your data center, there are still a number of **cooling** factors to take into consideration as the warmer summer months approach**page 30**
- Cutting down the number of **spam messages** coming in to your enterprise's email system is a laudable goal and a never-ending challenge. It may seem next to impossible, but it can be done**page 30**

COMPANIES



- Since its inception in 2001, Rackmount Solutions has grown to become an industry leader in supplying **data center racks, cabinets, and related hardware and accessories** to IT and network operations of all sizes ..
.....**page 39**



- One company offering help in **compute, storage, and desktop virtualization** solutions for the small to mid-sized enterprise market is Fairway Consulting Group**page 39**
- In any market for high-end equipment, there's always room for **preowned or refurbished merchandise**. The market for workstations and servers is no different, which is where Stallard Technologies comes in.....**page 42**
- For Roger Jette, CEO of Snake Tray, inspiration struck while he was staring at a tangled web of **cables under the data center floor** of a large financial services firm**page 43**

PRODUCTS

- For very fast storage speeds, iStarUSA has done away with SATA, eSATA, SCSI, and other storage standards and has built its external storage application around the very fast **PCI Express protocol**
.....**page 20**
- Frisco, Texas,-based A-Neutronics has begun engineering its own **power devices** and for several years has exclusively sold its manufactured units, including its unique 17-Outlet 19-inch Rack Mount with LCD Display (15AMP) model, also known as the MS1917-LCD**page 21**
- Service Corp. International turned to Akorri BalancePoint for a **holistic, cross-IT silo view of the data center****page 22**
- After researching both big-name vendors and entrance players in the **shared-storage** space, Attenda decided on using 3PAR's InServ Utility Storage because of the quality of its product and 3PAR's focus on the managed services arena**page 22**

Product Spotlight

A Look At Some Of The Newest Storage Options For SMEs

DNF Storage

FlexStor-NAS 4820qz NAS Server Appliance

The FlexStor-NAS 4820qz is an easy-to-install high-performance NAS server appliance equipped with RAID and NAS technologies and packed with features, including dual Intel second-generation quad-core Xeon processors and 16GB of fully buffered system memory with error correction.

- Storage capacity of 36 to 48TB with 7,200rpm hard drive (14.4TB capacity with 10,000rpm drives)
- 48 hot-swappable 3Gbps SATA drives and two RAID-certified 150GB 10,000rpm WD Raptor SATA drives
- Windows Storage Server 2003 r2 64-bit operating system
- Two 24-channel 3Gbps SATA RAID controllers

(800) 947-4742 | www.dnfstorage.com



iQstor

iQ2850 iSCSI Storage System

The iQ2850 iSCSI Storage System is designed to deliver high performance for enterprises at a low cost. It's loaded with features, including storage virtualization, snapshots, mirroring, remote replication, storage provisioning, and automated capacity growth.

- Each module supports up to 15 Fibre Channel drives with 6TB of capacity using 400GB hard drives or 15TB with 1TB SATA hard drives
- Easily scalable
- Hot-swappable components
- Integrated RAID 0, 1, 1+0, 3, 5, 6, and 50

\$35,932 (with dual controllers and unlimited capacity licenses for many features)

(800) 300-8288 | www.iqstor.com



Sun Microsystems

Sun Storage J4200 Array

The J4200 Array is ideal for data centers that need to extend their server storage capabilities inexpensively. With a scalable JBOD storage configuration, the J4200 offers better data integrity, easy management, and high performance.

- Includes the Solaris ZFS file system
- Scales up to 48 SAS/SATA hard drives
- Supports Solaris, Windows, and Linux
- Up to 72Gbps of bandwidth

Starts at \$2,800

(800) 786-0404 | www.sun.com



Dynamic Solutions

DSI9152 Virtual Tape Library

The DSI9152 Virtual Tape Library is designed for small to midsized enterprises that want a disaster-recovery solution at a low cost. The device uses end-to-end high-speed connections, multistreaming, and multisession backup capabilities to reduce the need for tape in the backup process and increase backup and recovery speed.

- Supports 2TB RAID 5 (three 1TB SATA drives)
- Supports 256 virtual tape volumes in a single node
- Provides ANSI Fibre Channel (4Gb) attachment to mainframes and open systems

Starts at \$20,000 for one entry-level device

(303) 754-2000 | www.dynamicsolutions.com



Nexsan

iSeries iSCSI SAN 200i

The iSeries iSCSI SAN 200i offers a variety of storage options in a high-performing yet scalable solution. Incorporating both SAS and SATA in the same unit, the iSCSI SAN 200i can handle server virtualization, databases, file storage, and data consolidation.

- Two 1GB iSCSI ports per appliance
- Two Fibre Channel ports with auto speed detection
- Active/active SAN controllers when clustered

Starts at \$25,000 (SATA only)

Starts at \$35,000 (SAS only)

(866) 463-9726 | www.nexsan.com



iXsystems

Titan FreeNAS Storage Appliance

Designed for flexibility, functionality, and performance in a cost-effective package with a simple user interface, the Titan FreeNAS storage appliance provides storage consolidation for multiserver systems in an IP-based environment.

- 2U form factor
- 12 hot-swap drive bays
- Up to 12TB of storage capacity
- Integrated RAID support

(408) 943-4100 | www.ixsystems.com



Hitachi

Simple Modular Storage 100

Designed as a simple and reliable storage solution for SMEs, the Simple Modular Storage 100 is easy to manage, scale, and integrate with applications. With configuration wizards and an easy-to-use user interface, the device is easy to set up, as well.

- Supports HP-UX, IBM AIX, Microsoft Windows XP/Vista and Server 2003/2008, Novell Netware, Red Hat/Red Flag/SUSE Linux, Sun Solaris, VMware, and Mac OSes
- Cost-efficient, power-efficient, and fully compliant with RoHS regulations
- 146GB 15,000rpm SAS, 300GB 15,000rpm SAS, 400GB 10,000rpm, 500GB SATA II, 750GB SATA II, or 1TB SATA II hard drives
- Flexible connectivity options (iSCSI and Fibre Channel)

(888) 234-5601 | www.hds.com



Sun Microsystems

Sun Storage 7110 Unified Storage System

Sun's 7110 Unified Storage System is a simple, cost-effective storage solution that is easy to install. The system is equipped with the Solaris ZFS file system to protect existing data and provide RAID-Z DP for maximum availability.

- Provides 2TB of storage capacity in a 2U form factor
- 8GB RAM
- Installation is quick and easy
- No additional license fees for protocols and data services

Starts at \$10,995

(800) 786-0404 | www.sun.com



DNF STORAGE

DYNAMIC NETWORK FACTORY

DNF Storage

StorBank-SL 1601qz NAS Appliance

The StorBank-SL 1601qz NAS appliance is designed for enterprises that need a scalable platform to accommodate growth and manage all conceivable storage needs. The Next-Gen OS is designed to be user-friendly and features built-in synchronous mirroring and remote replication.

- Storage capacity of 8 to 16TB
- 16 hot-swappable 7,200rpm 3Gbps SATA hard drives or 15,000rpm SAS hard drives
- Supports SMB/CIFS, FTP, and NFS 3/4 with unlimited snapshot functionality and volume and file replication
- 19-inch rackmount chassis in a 3U form factor with mounting rails

(800) 947-4742 | www.dnfstorage.com



Product Spotlight

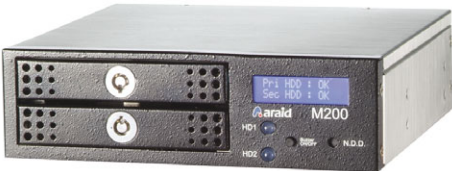
Compiled by Seth Colaner



Asempra Business Continuity Server

- Asempra’s Business Continuity Server offers fast, one-click recovery for Microsoft applications and data to minimize downtime and data loss. An all-in-one device, the Business Continuity Server is designed to cut costs in terms of protection, recovery, storage, backup, and more.
- Application-driven data recovery with VODR (Virtual On-Demand Recovery)
 - Consolidates backup, business continuity, disaster recovery, recovery management, compliance, and governance into one solution
 - Supports Windows 2000/2003, Microsoft SQL Server 2000/2005, and Microsoft Exchange Server 2003/2007
 - Supports DAS; iSCSI SAN; Fibre Channel SAN; and Fibre Channel, SAS, SATA, or SCSI disk interconnects

Starts at \$15,000
(408) 215-3893 | www.asemprapro.com



Accordance Systems ARAID M200

- The ARAID M200 is a low-profile, self-contained RAID storage subsystem that connects to a PC via a physical SATA interface and appears to the computer as a single standard hard drive. With its mirroring capabilities, the ARAID automatically uses the remaining good drive should one of the hard drives fail, with no interruption to the computer user.
- Hosts two hot-swappable 4,200/5,400/7,200rpm 2.5-inch SATA drives
 - Provides SATA RAID 1 disk mirroring for data redundancy
 - Supports Windows Server NT 4.0/2000/2003, Windows 95/98/Me/XP, Mac OS 9 and above, Linux Red Hat/SUSE/Slackware/Debian/Mandrake, DOS 6.22, Novell NetWare, Sun Solaris, and OpenBSD/NetBSD/BSDi/FreeBSD

\$390
(515) 223-4845 | www.accordancesystems.com



Accordance Systems ARAID 2200 SATA/eSATA

- The ARAID 2200 serves much of the same purposes as the ARAID M200 but in spades. It’s an inexpensive solution to data mirroring.
- Hosts two hot-swappable 5,400/7,200/10,000rpm 3.5-inch SATA drives
 - Provides SATA RAID 1 disk mirroring for data redundancy
 - Supports Windows 98/Me/NT 4.0/2000/XP/Server 2003/Vista, Mac OS 9 and above, Linux Red Hat/SUSE/MontaVista/Slackware/Debian/Turbo/Mandrake/Ubuntu, DOS 6.22, SCO Unix System V, Novell NetWare, and Sun Solaris

\$395
(515) 223-4845 | www.accordancesystems.com



Synology Disk Station DS508

- The Disk Station DS508 is designed to deliver exceptional speed and computing power to enterprises that require efficiency and flexibility.
- Supports RAID 0, 1, 5, and 6
 - Supports HTTPS, FTP over SSL, FTP over TLS, and SSL
 - Enables Windows and Mac users to seamlessly share files
 - Compatible with Windows ADS domain

(425) 818-0858 | www.synology.com



Sans Digital AccuRAID AR212SX

- Designed for file servers, backup, audio/video streaming, and digital recording, the AccuRAID AR212SX offers SMEs a solution geared for a high volume of store capacity. The AR212SX is designed to be scalable, flexible, and cost-effective.
- 12 hot-swappable 3.5-inch trays for SATA drives
 - Supports RAID 0, 1, 0+1, 3, 5, 6, or JBOD
 - Supports up to 18TB, expandable to 72TB
 - Uses a SAS host interface

(800) 980-1988 | www.sansdigital.com



HP StorageWorks AiO 1200r

- The StorageWorks AiO (All-in-One) 1200r provides affordable storage solutions that let growing companies manage and protect their data. The device is simple to set up and manage, allowing less-experienced data center managers to migrate data, implement disk and tape backup policies, and set up end-user file shares.
- Quad-core AMD Opteron 2354 2.2GHz processor
 - Supports up to 12 450GB SATA drives
 - Supports MSA50, MSA60, and MSA70 expansion hardware
 - 2U rackmount form factor

Starts at \$7,199
(800) 752-0900 | www.hp.com

HP StorageWorks 2000sa Modular Smart Arrays

- For companies that need scalable storage, HP’s StorageWorks 2000sa Modular Arrays let enterprises transition from direct-attached to centralized storage. Designed for smaller companies with tight budgets or larger organizations with several smaller branches, the StorageWorks 2000sa Modular Arrays can be expanded with the addition of more modules.
- Supports up to four hosts for SAS direct attach
 - Has 12 drive bays to support 3.5-inch dual-ported SAS drives and archival-class SATA drives
 - Capacity ranges from 5.4TB (SAS) or up to 12TB (SATA), expandable to 21.6TB and 48TB, respectively
 - Supports up to 256 LUNs with sizes up to 16TB

Starts at \$5,000
(800) 752-0900 | www.hp.com



IBM System Storage DS5100

- The System Storage DS5100 is designed to offer high performance, advanced functionality, and high-availability storage for midsized enterprises. The system is modular and scalable with support for up to 16 EXP5000 storage expansion units.
- SAN-attached 4Gbps Fibre Channel connectivity
 - Supports RAID 0, 1, 3, 5, 6, and 10
 - Supports 8GB or 16GB modular cache memory blocks
 - Supports up to 256TB of storage capacity

Starts at \$69,000
(800) 426-4968 | www.ibm.com

IBM XIV Grid Storage

- IBM’s XIV Grid Storage system offers an easy-to-manage high-end open disk storage system. Based on a grid of standard hardware, the XIV Grid Storage system is designed to offer a high level of performance, reliability, and functionality at a low cost.
- Supports up to 180 1TB SATA II 7,200rpm disks
 - Up to six iSCSI ports over Gigabit Ethernet
 - Up to 24 Fibre Channel ports with 1, 2, or 4Gbps multi-mode and single-mode support
 - Up to 168Gbps of internal switching capacity

(800) 426-4968 | www.ibm.com

Relief From Recycling Woes

Continued from Page 1

be sold to Recycle Your Media, where we will securely remove all existing data from the tape and certify secure data eradication by providing a certificate of data destruction.”

According to Musil, the cost to have tapes removed and destroyed can range from \$3 to \$8 per tape. On the other hand, Recycle Your Media will not only pay the postage for sending data cartridges, it will also pay for the media itself. The company accepts a wide range of tapes, including DLT, SDLT, LTO, AIT, SD1, 8mm, 4mm, 3590, 9840, and 9940.

“The future for recycling is clear, and more so, corporations are gaining a better understanding of the importance of recouping costs and purchasing ‘certified for reuse’ data tapes vs. new tape media,” Musil says. “Recycle Your Media has always had a forward-thinking approach, and it is of great value to encourage all IT managers and corporations worldwide that this is the way to incur economical and ecological efficiency.”

Classic Computer Recovery

Founded in 2002, Michigan-based equipment recycler Classic Computer Recovery (www.classiccomputerrecovery.com) was conceived during a period that saw dramatically dropping PC prices, which in turn would lead to a massive rise in obsolete equipment. CCR seized upon a prime opportunity to recover unwanted or retired end-of-life computer and electronic equipment.

“We believe that by diverting e-waste from curbside disposal and converting these products into waste-stream commodities, CCR has created an innovative solution with significant social, environ-

mental, and economic value,” says CCR President and CEO Linda McFarland. “CCR is the first private-sector recycler in the Midwest to partner with local and state-operated waste management agencies, community recycling authorities, and health departments to create and

“It is of great value to encourage all IT managers and corporations worldwide that [recycling] is the way to incur economical and ecological efficiency.”

- Recycle Your Media's Brian Musil

maintain several e-waste permanent drop-off [PDO] locations.”

Convenience is an overriding factor in CCR’s recycling goal, which is to make asset recovery and recycling as simple and accessible as possible for its customers. For example, for medium-sized companies with three or more full skids of product, CCR will provide onsite labor, skidding, and pickup services. Further, the company can scan and inventory all product serial numbers onsite in real time and provide same-day documentation of piece counts and serial numbers.

For smaller enterprises, McFarland says that CCR offers one-day recycling collection programs that are held at various locations throughout the states in which it operates. This year, the company is introducing its TV Take Back collection program in a 17-state region, where it will accept a wide range of equipment for recycling, including TVs, computers, CRT monitors, printers, and cell phones.


Reclamere

Depending on your industry, you might have far different recycling needs than the data center down the road. This is particularly true if your equipment holds highly sensitive data, because you can’t simply toss it to the curb and wait for a curious stranger with a truck to pick it up. Instead, you’ll need to seek the services of a recycler with vast experience in handling such equipment, such as Reclamere (www.reclamere.com).

Based in Pennsylvania and serving that area and all surrounding states, Reclamere is fanatical about protecting its clients’ data. The company offers no one-size-fits-

all recycling solution, instead delivering a customized approach that is based on client needs. Further, the company subcontracts none of its services and uses only bonded, insured, background-checked, and drug-tested Reclamere employees for all projects, including the transportation of equipment.

“Our digital data destruction is a trade-secret process developed in-house that exceeds government standards for destruction and quality control,” explains Angie Singer Keating, vice president of compliance and security at Reclamere. “Because we are experts in data recovery—not just self-proclaimed, but actual experts at the federal court level for litigation involving data recovery—we can guarantee to our clients the very best in data destruction services.”

According to Singer Keating, small and midsized companies are particularly vulnerable to data breaches because they tend not to have the resources enjoyed by larger companies. Reclamere’s services can help data centers traverse the tricky recycling path by ensuring that they are in compliance with data and environmental regulations. 

Great Potential: DMD Systems Recovery

Terming itself “a slightly different company,” DMD Systems Recovery (877/777-0651; www.dmdsystems.com) evaluates equipment and then either refurbishes it, disassembles it into usable parts, or destroys and recycles it according to the customer’s security requirements and environmental regulations. The company also purchases new, used,

excess, and idle computer equipment, including servers, workstations, printers, monitors, terminals, laptops, telecommunications devices, and power supplies.

In addition to recycling and purchases, DMD’s other asset management services include data security, logistics and transportation, nationwide deinstallation,

asset reporting, redeployment, and certificates of destruction. To ensure data security on recycled equipment, the company uses Department of Defense-approved data-wiping procedures. Further, the company assumes liability for the environmental and data-security factors involved with equipment recycling.

Top Security Exploits & How To Protect Yourself

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“Over the past couple years, we’ve gone from malicious attacks to those designed to yield financial returns, and as a result, the threats are much more sophisticated, fooling even savvy users,” he says.

For example, James points out a recent phishing scheme centered on PayPal, in which the domain name of the phony site was nearly identical to PayPal’s, and the email message used fonts and language

provider Optenet (www.optenet.com). He believes that social networking sites, such as the wildly popular Facebook, should be of major concern to all organizations.

“Estimates suggest that more than 20,000 pieces of malware attacked social networks in 2008 alone,” he says. “And considering social network exploits are the fastest growing threat on the Internet today, 2009 is shaping up to be a record year for antisocial networking.”

He believes that simply putting devices at the Internet gateway isn’t enough, particularly when it comes to databases and applications. There are some products that can specifically protect these areas within a network, he says, and create intelligence about user behavior.

For instance, if a midlevel manager is suddenly querying the database for a list of 100,000 credit card numbers, a database-monitoring application will not only tag the request as suspicious, but block any data downloads until they can be verified as legitimate.

“You need something that can monitor and highlight some of the more suspect behavior,” James says. “Beyond just an audit trail, this creates a forward-looking assessment that allows you to run a vulnerability report and expose underlying issues that could be exploited.”


White also cautions data center managers who are looking to change their infrastructure setups to take advantage of new “green” IT equipment. He notes, “Managers can’t just keep throwing software and appliances together. They have to start from a platform that can scale and provide the performance and requirements that their customers need.”

SMEs in particular might find more protection from an all-in-one integrated security appliance or a SaaS model, White adds. The benefit of the appliance approach is in combating external sources of malware from one centralized console.

“The integrated appliance has the advantage of saving time, and as a result, more resources can be deployed to ensure that security policy is tight and up-to-date,” he says. The appliance can also provide consolidated reports that

offer a full view of what’s happening network-wide.

With SaaS, a company can do the equivalent of outsourcing security to professionals, but White cautions that it’s not a one-size-fits-all model. He says, “Companies have to make sure they find a solution that allows for the ability to control and customize the solution vs. only being able to choose among limited preconfigured options.”

In general, employing multiple layers of security—such as a gateway, integrated appliances, and application-level protection—can be a boon for reducing the risk from the multitude of threats that, unfortunately, are only likely to get more frequent in the near future. 

Fortinet Findings

According to the security firm’s February report, here are some interesting movements worth watching:

- **Conficker is still running strong:** An exploitation of the well-known MS08-067 vulnerability showed its highest recorded activity to date in mid-February.
- **Waledac is gaining strength:** This relatively new botnet was very active in a Valentine’s Day campaign and uses a variety of domain names and safe-haven registrars.
- **Spam levels are back up:** After a sharp decrease in late 2008, phishing and scam emails are surging, taking advantage of the economic crisis with emails about supposed financial news.

“Over the past couple years, we’ve gone from malicious attacks to those designed to yield financial returns, and as a result, the threats are much more sophisticated.”

- Fortinet's Anthony James

similar to those in legitimate messages sent by the company.

For SMEs, a more alarming trend might be exploits aimed at data warehouses and Web applications. Fortinet anticipates that this area will grow larger in the near future, as well. James notes, “It’s obvious to attackers that databases are where the information is stored and that a lot of enterprises are storing sensitive data in these applications.”

Also a target for exploits are Web 2.0 technologies, adds Steven White, a senior engineer at content security solutions

What makes these particular exploits so troubling, he adds, is that they often involve private details gleaned from a user’s post, profile, or “friend list” to lull otherwise net-savvy individuals into running malicious code or even into giving out passwords.

Staying Protected

User education is always important, but with the increasing sophistication of attackers, IT departments need to beef up their security layering, as well, James notes.

Power Up

These Smaller Players In The Power Equipment Market Are Worth A Look

by Elizabeth Millard

POWER EQUIPMENT runs the gamut from UPS systems to power strips to fuel systems, and there are a couple of large players in the space that many data centers tend to utilize. Sometimes, though, it pays to look beyond the obvious choices and give a new vendor a chance. Here are a few manufacturers in the space that should be on your radar.

Para Systems

Started in 1982 by several entrepreneurs who saw a market need for battery backup products, Para Systems (www.minutemanups.com) was the first company to market smaller-capacity uninterruptible power supplies that offered external battery packs.

The advantage to using the packs was to extend backup time, and soon the product line—called Minuteman, after the American Revolution militia members—grew to encompass a range of UPS products.

According to Bill Allen, Para Systems’ director of marketing, a unique company feature is the extended warranty on the products, which is currently at three years. He notes that most UPS manufacturers offer two years or less. The breadth of available products is another advantage, he adds, particularly for SMEs.

The most recent product introduced is an extreme-runtime battery pack that’s designed specifically for protecting mission-critical applications. Minuteman UPS products even protect VoIP, meaning phone systems don’t go down if the power gets shut off.

“SME owners often overlook the importance of protecting their electronic equipment with a UPS,” he says. “They make sizeable investments in equipment and infrastructure to support their business but ignore the possibility that their mission-critical hardware could be severely damaged by a power glitch.”

He points out recent surveys done by Office Depot that have found that about 60% of SMEs don’t have their vital systems protected by a UPS. Also, only about 29% of SMEs have any type of contingency plan in place when it comes to potential power outages.

“No matter what the size of the business, companies run the risk of lapsing into the business equivalent of a coma if appropriate contingency plans are not in place,” says Allen.

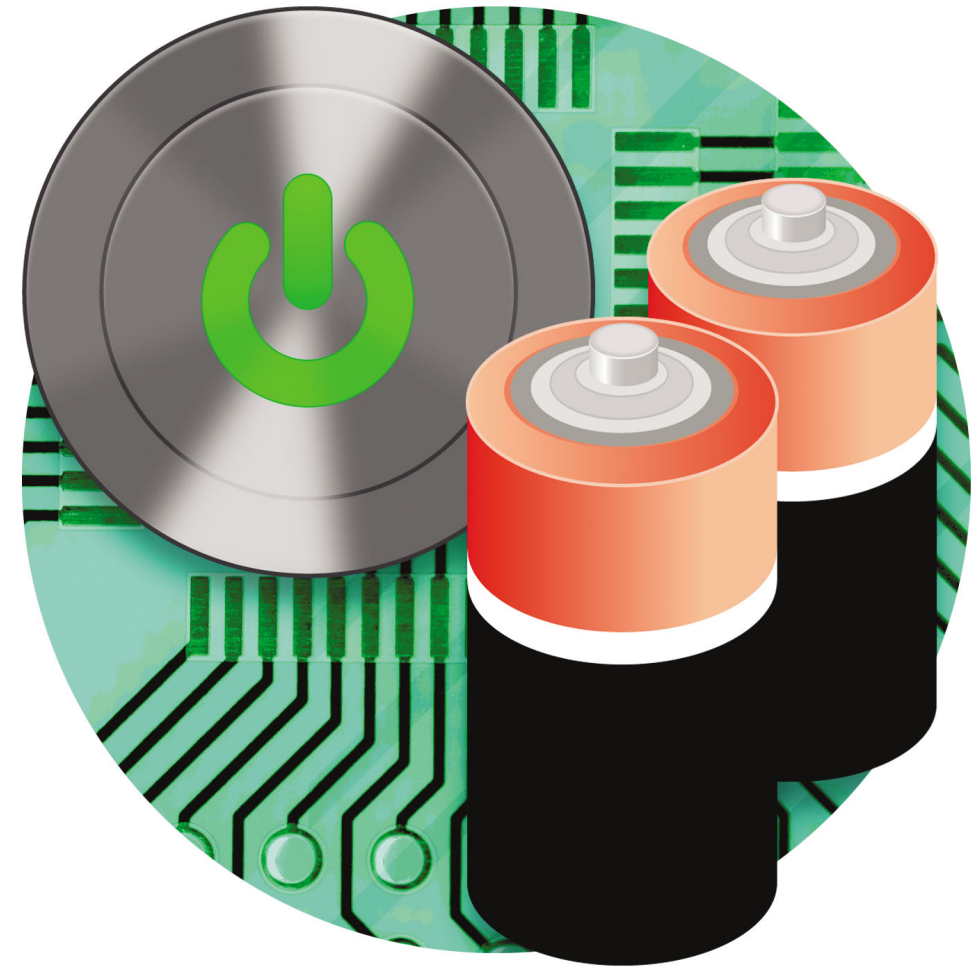
Active Power

Energy efficiency is heavily touted at Active Power (www.activepower.com), a maker of UPS systems and other power products and a provider of such services as

design engineering, implementation, and assessment.

A particularly distinctive product for the marketplace is the company’s CoolAir line, which provides both power and cooling for extended power disruptions, notes Martin Olsen, vice president of business development at Active Power.

He adds that the other major contribution to the market is CleanSource, a UPS product that has a very small footprint and



includes flywheel technology, an efficient means of energy storage that’s catching on fast. A flywheel has a number of advantages over the more traditional type of energy storage, Olsen points out, mainly in its ability to supply clean and cost-effective alternatives to batteries.

Other offerings include UPS components such as switchgear, power distribution units, diesel generators, and generator starting modules. One product, GenSTART, is a battery-free, modular system that gives additional nines of availability to standby generator sets.

In terms of being well-suited for SME customers, the company offers highly flexible, energy-efficient turnkey solutions, notes Nik Simpson, a senior analyst at the research firm Burton Group.

According to Simpson, customers want providers that can help them expand data center capacity quickly in support of IT

and business growth while also balancing capital expenditures and operating expenses. With so many SMEs attempting to grow steadily without adding to costs, creating a strong partnership with a company such as Active Power might be a positive step toward long-term power management.

Cummins Power Generation

Unlike some players in the space, Cummins Power Generation (www.cumminspower.com) isn’t a diminutive startup, although it is a smaller subsidiary of a much larger company, called Cummins. The

umbrella firm has been operating since 1918, but CPG was spun off much later, in 1986.


The company specializes in crafting products that can outfit an entire data center; some popular items include fuel cells, generator sets, alternators, and transfer switches. Services range from system design and project management to maintenance and operation.

Being able to offer a breadth of products requires a slightly larger company such as Cummins Power Generation, or CPG. One of the firm’s strengths is in acting as a sole vendor for all power to a data center, notes Aniruddha Natekar, who specializes in sales application engineering for CPG.

“When you have a number of products from different sources and vendors, it can be challenging to put it all together,” he says. “Matching up components is a major strength for us, as is service.”

Those doing maintenance will have an easier time checking multiple systems if all the components match up and were made to work together, he adds. With a mixed array of products, there may be downtime while a company attempts to locate the problem.

“If there’s an alternator issue, you need to go to the alternator manufacturer, and that takes time,” says Natekar. “That’s different from making one phone call and having someone check the entire system.”

At Cummins, they call it the “power of one,” which entails a single vendor supplying all power and service across the data center and offering monitoring capability, as well, so that efficiency can be achieved. 

Challenges Ahead In The Adoption Of Healthcare IT

The \$20 billion of the stimulus package set aside for healthcare IT is being met with popular support, but healthcare experts say challenges are ahead in its adoption. Supporters of the healthcare IT plan say that by replacing paper medical records with linked electronic records, the quality of care will improve, medical mistakes will be less prevalent, overall medical costs will be lowered, and more IT jobs will be created. However, the challenge exists in the current fragmented state of the healthcare industry. Experts say the success of an efficient electronic system depends on a coordinated effort by physicians, labs, and pharmacies.

Mobile Web Access Doubles

More than twice as many people are using phones for daily access to news and information this year compared to last year, according to a ComScore report. Of the 63.2 million people who obtained news and other information on a mobile device in January of this year, 22.4 million did so daily, compared to about 10.8 million in January 2008. The number of people using mobile devices for such access (excluding social networking sites) at least once a month was up 71%. The number of mobile users visiting social networking sites on a daily basis more than quadrupled during the past year. Better mobile networks, Internet-focused hardware, and more interesting online content propelled the growth in mobile Web usage, according to ComScore.



Intel Remains No. 1 In Global Chip Revenues

Intel maintained the top spot in the semiconductor industry in 2008 with revenue of \$33 billion dollars. The iSuppli data indicates that eight out of the top 10 chip makers saw a decline in revenue in 2008. Samsung, Intel’s closest competitor with \$16 billion in revenue, saw a 14% decline from 2007, while Intel’s revenue dropped by less than 1%. AMD dropped from 10th to 12th in terms of revenue, with a nearly 8% decline year-over-year, according to iSuppli. Companies with notable increases in chip revenues include Qualcomm, Broadcom, Panasonic, and Rohm.



Mobile Commerce On The Rise

Shopping at mobile commerce Web sites (those designed for access on mobile phones) will generate \$1.6 billion in sales this year, according to a report from ABI Research. Mark Beccue, ABI Research senior analyst, says, “Thanks to red-hot smartphone adoption, an increasing number of subscribers are shopping at mobile commerce sites such as Amazon and eBay.” Transactions via NFC (Near Field Communication) are still minimal because the NFC market has not met early expectations. With people becoming more adept at using mobile money services, the mobile phone offers alternatives for those wanting to transfer money in locations where financial institutions are scarce.

Great Potential: Viridity Software

Viridity Software (www.viriditysoftware.com) just came out of startup stealth mode in February with a company mission to reduce power and cooling costs for data centers. Founders of the company, which has actually been in business since 2007, have noted that the company is developing products designed to maximize system utilization by taking a deeper look into

the impact of strategies such as virtualization and space redesign.

“Factors including the tough economic environment, high cost of power, limited floor space, and desire to be more green are all causing data center pros to want to better understand and manage the power side of data center operations,” notes Ted Julian,

the company’s vice president of marketing.

For some data centers, the answer is to keep plugging in UPS systems and other hardware, but Julian believes that a hardware approach limits the scope and timeliness of any power-saving initiatives, which is why the company focuses on software instead.

Companies Get Help With PCI DSS Compliance

Companies struggling to reach compliance with the 12 security controls outlined in the nearly four-year-old PCI DSS (Payment Card Industry Data Security Standard) got an assist from the council that oversees the controls. In addition to six milestones contained in “The Prioritized Approach To Pursue PCI DSS Compliance” released by the PCI Security Standards Council, the council is providing a spreadsheet-based utility to help companies view their progress in achieving the milestones.



The standards council—which American Express, Discover, JCB International, Master-Card, and Visa founded—created the PCI DSS to help secure credit and debit cardholder data that merchants and organizations store, process, and transmit. Many companies have reportedly been overwhelmed and confused about the best place to start in meeting the PCI DSS’ 12 security controls. Constructed using data from recent security breaches and input from security assessors, forensic investigators, and advisers, “The Prioritized Approach” addresses such concerns.

Achieve Compliance

Bob Russo, the council’s general manager, says many small enterprises “are unaware of how to achieve PCI DSS compliance, which is the first step in helping them reduce data breaches.” Because “much of a business’ brand reputation and financial success is linked to the safety of customer payment information,” Russo says, if customer credit card data is stolen, the result is lost trust and business. SMEs “typically have limited IT staff, if any dedicated IT staff at all,” Russo says, which means they may not have the staff needed to tackle security. The “Prioritized Approach” can help.

Organized in the most efficient order to gain PCI DSS compliance, the six milestones include Remove Sensitive Authentication Data And Limit Data Retention; Protect The Perimeter, Internal, And Wireless Networks; Secure Payment Card Applications; Monitor And Control Access To Your Systems; Protect Stored Cardholder Data; and Finalize Remaining Compliance Efforts And Ensure All Controls Are In Place.

The PCI DSS has recently come under fire because of breaches involving Heartland Payment Systems, RBS WorldPay, and TJX. In mid-March, a Visa representative stated that the PCI DSS remained an “effective security tool when implemented properly.” Visa announced two initiatives it’s testing, however, that go beyond the PCI DSS, including using magnetic stripe technology to create unique digital fingerprints for individual cards and using a point-of-sale challenge-response test.

Russo says, “When it comes to the PCI DSS requirements in general, each organization has different infrastructure and processes and so faces different challenges. There is no one ‘harder-to-implement’ requirement.” Russo recommends that SMEs complete a self-assessment questionnaire the council provides and use PA-DSS (Payment Application Data Security Standard) and PED (PIN Entry Device) listings to verify they are using security software and payment devices deemed compliant and approved by the council.

by Blaine Flamig

Unseating The Competition

Lesser-Known Vendors Of Racks & Furniture Offer Personal Service, Attention To Detail

by Drew Robb

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WHEN IT COMES TO racks and furniture, most people think of a select few major OEMs and suppliers. In some cases, SMEs find it convenient to stick to whatever is offered by their server vendors in terms of racks, for example. Although they sometimes offer great deals, there are hundreds of smaller outfits around the nation that

“If you have a data center in the infant stages, we can provide the entire supplies for the job—bulk cable in the walls, jacks, wall plates, patch panels, patch cables, switches, power supplies, UPS backups, LCD monitors, KVMs, and any type of rack required,” Rangel says. “We are also releasing a soundproof cabinet called the Ucoustic cabinet, which comes out [this month]. This is aimed at data centers, as



provide excellent services, competitive prices, and perhaps even superior merchandise. Here are just a few examples.

Rackmount Solutions

Formed in 2001, Rackmount Solutions (972/272-6631; www.rackmountsolutions.net) specializes in rackmount storage ranging from straightforward 2- and 4-post racks and wall-mount racks (enclosed and open) to air-conditioned racks, customized racks, and NEBS Bellcore earthquake racks. (NEBS stands for Network Equipment Building Systems and is a standard used heavily in the telecommunications and networking fields.) In addition, the company sells the accompanying accessories such as shelves, keyboards, and cabling.

“We use high-quality steel, provide attentive customer service, and are willing to process orders of any size, large or small,” says Rudy Rangel, sales manager at Rackmount Solutions. “As a small company, we pride ourselves on [offering more] personal service than you typically get from the big suppliers.”

Although Rangel says his company’s rack offerings are mainly of particular interest to SMEs, he also points out the depth of its cabling portfolio. Rackmount Solutions can, for example, supply customers with any cable solutions they need. This includes any kind of bulk or patch cable, as well as those used for networking, video graphics, and more.

well as offices that want to dampen the noise coming from server fans.”

Amerex Enclosure Systems

Amerex Enclosure Systems (www.amerexenclosuresystems.com) focuses on server racks and cabinets. Its latest JetRack series model, for example, is specially designed to be used in any kind of data network, telecommunications, and computer setting. It is available mainly in 19-inch, 42U sizes. Door options include metallic and glass doors; rear and front doors are available as needed. The company’s QTI (quick to install) technology makes installation rapid due to the rack’s accessibility.

The company also sells wall-mount and other cabinet configurations. A series 122 wall-mount unit, for instance, is a 6U box for indoor installations. Its pivoting body features panels to adjust the depth as required.

“We provide the entire range of enclosures and cabinets made from durable metal,” says Surya Dhamija, CEO of Amerex Enclosure Systems.

These units come in a wide variety of colors. Wheels can be included if desired. They are also lockable and can be ventilated in many different ways: from the top, between the racks, or from the back, for example.

“We favor a European-style design with units that are easy to work on from the back end,” Dhamija says.

Dhamija offers several reasons why SMEs should gravitate toward a supplier such as Amerex as opposed to sticking with server OEMs or the better-known enclosure manufacturers. In addition to generally lower prices, Dhamija says his company has a greater understanding of how to configure servers and the related equipment within and adjacent to the rack. In addition, he discusses the issue of availability.

“We are more price-competitive, more knowledgeable, and more versatile,” says Dhamija. “As we keep stock on both costs, customers won’t experience delays in receiving their merchandise.”

EQA Office Furniture

Rather than racks and enclosures, EQA Office Furniture (www.eqaofficefurniture.com) specializes in the furniture side of the market, which includes conference tables, reception desks, seating, and cubicles. In fact, it supplies everything that might be needed in terms of furniture for a company moving into a new space.

“Our turnkey solutions could be characterized as mid- to high-end products at low-end prices,” says Bruce Mallett, vice president of sales at EQA Office Furniture. “We can deliver and install nationwide in 14 to 21 days.”

In many cases, he says, these products are available at prices similar to used equipment, except in this case, full warranties are in force. To back this up, he quotes some prices: Call center cubicles that typically sell for more than \$500 are sold at \$295 per cube. The customer gets to choose the color and fabric.

“Seating can be provided that minimizes static electricity, and recycled materials can be purchased if the customer prefers,” says Mallett.

Although individual items or small orders can be purchased, the company often quotes for an entire facility—perhaps for a new data center, an additional floor, or a new office. EQA Office Furniture can outfit a space for an average of \$12 per square foot—so, if the client is looking at a 10,000-square-foot space, it would come to \$120,000 to fully furnish the premises.

“You can add in about another dollar for electrical,” says Mallett. “When you factor in all electrical and communications costs, that would be no more than \$15 per square foot.”

Great Potential: Furniture Under Cost

Furniture Under Cost (www.furnitureundercost.com) supplies many kinds of furniture, including desks, chairs, and tables. Although it originally began with a home focus, it has expanded into the home office and branch office market. The business model is simple: provide lower prices than the competition through low overhead while having a huge range of choices available.

“We give you the ability to pick from a larger variety of products at wholesale prices, something very much needed in this struggling economy,” says Dennis Robb, owner and CEO of Furniture Under Cost. “There are always great deals, [whether] on one item or 1,000.”

Serve & Protect

Smaller Security Vendors Help Detect, Manage & Prevent Vulnerabilities

by Sixto Ortiz Jr.

ADMINISTRATORS IN today’s data centers spend quite a bit of time worrying about possible vulnerabilities that could affect their data. In fact, a 2008 Gartner survey indicates that vulnerability management and/or assessment was one of IT executives’ highest funding priorities for 2009. Clearly, administrators are thinking quite a bit about how to prevent vulnerabilities before they are able to severely impact business operations.

When it comes time to shop for a security and vulnerability management vendor, there are many smaller companies worth looking into that offer vulnerability assessment and management tools designed to help detect and prevent data center vulnerabilities.

Rapid7

One unfortunate truth about potential security vulnerabilities is the fact that it is quite difficult to figure out where the next one is coming from. Is a business-critical application vulnerable to an exploit? How about a server operating system or even a network device such as a router or switch? Hackers

products focus on a specific area, such as operating systems or network devices, Rapid7’s approach performs a broader level of vulnerability assessment. Also, adds Thomas, NeXpose can be deployed in a number of ways by small and mid-sized organizations, from deployment on user laptops to installation in an appliance.

Cymtec Systems

The network lies at the heart of today’s data center, but unfortunately, modern networks are target No. 1 for hackers and cyber-criminals looking to exploit security vulnerabilities and get their hands on information that doesn’t belong to them. Addressing network-based vulnerabilities is therefore an area of concern for administrators who want to protect their companies’ information assets from prying eyes.

St. Louis-based Cymtec Systems (www.cymtec.com) is a network optimization and security provider that manufactures and markets two principal product offerings: Cymtec Scout and Cymtec Sentry. According to company President and CEO Andrew Rubin, Cymtec Systems provides tools that help

branch office networks. The device isolates malicious traffic either entering or exiting a remote branch office and prevents infections from spreading to other branches or to the corporate network at large. In fact, according to Rubin, Cymtec Sentry is an IDS (intrusion detection system) product specifically designed to address the needs of remote/branch/small office environments.

The device plugs into the existing network with minimal reconfiguration required and automatically keeps its stored threat profiles, as well as the software and firmware, up-to-date. In addition, multiple Sentry devices can be managed and configured from a centrally located, Web-based console application.

Cymtec Scout is a network IDS that, according to Rubin, is the only network IDS that is delivered as a SaaS product. Of interest to potential SME users are real-time and trending threat and anomaly analysis and reporting features designed to help administrators comply with regulatory requirements in HIPAA, Sarbanes-Oxley, and others.

According to Rubin, a challenge for many organizations is addressing remote and branch office performance issues, especially given the growing number of employees spending time on social network sites and the ongoing threat from network and data breaches. He adds that many enterprises must closely monitor activity in remote and branch offices to make sure their networks stay safe from internal and external threats.

Axis Technology

Some of the most pernicious—and unfortunately, quite common—types of security breaches are those that occur whenever confidential customer data is stolen from within a company. This can result in unwelcome publicity that could take years to repair.

According to Mike Logan, president of Axis Technology (www.axistechnologyllc.com), his company “developed its data masking solution from the ground up based on years of real-world experience solving data security issues in complex IT environments.” The company’s DMSuite (Data Masking Suite) is designed to automatically allow administrators to mask sensitive data used in less secure environments.

Data masking is a technique that removes confidential or privileged information from information in company systems and replaces it with fictitious but still usable data. Applications and data can be used within a company, but any confidential information contained in the data is protected via the use of the masking technique.

According to Logan, DMSuite is well-suited for small and medium-sized companies because it supports all the major database platforms, in addition to flat files. Also, he adds, the software is designed for use by information security managers, and a DBA is not needed to use it successfully. DMSuite is also a Web-based application and does not require the modification or duplication of applications to use it, says Logan. ■

Great Potential: Sentrigo

Databases are the mother lode of information in an enterprise and a magnet for cyber-criminals. After all, it is database applications that contain the precious data that criminals, identity thieves, and others of that ilk labor so hard to get a hold of.

The Hedgehog application from Sentrigo (www.sentrigo.com) monitors all database activities and provides protection against insiders with privileged access. The application monitors transactions, queries, objects, stored procedures, and other database elements and sends real-time

alerts whenever a breach is attempted. Hedgehog can issue alerts flagging abnormal user activity and can also provide virtual patching to defend against new database vulnerabilities.

The best part about the Sentrigo Hedgehog application, however, is the fact that the company’s Hedgehog Standard software can be downloaded and installed free, making it ideal for smaller organizations looking to install activity monitoring for critical databases. Organizations that need more monitoring firepower and features can graduate to Hedgehog Enterprise.

Linux Adoption Accelerating

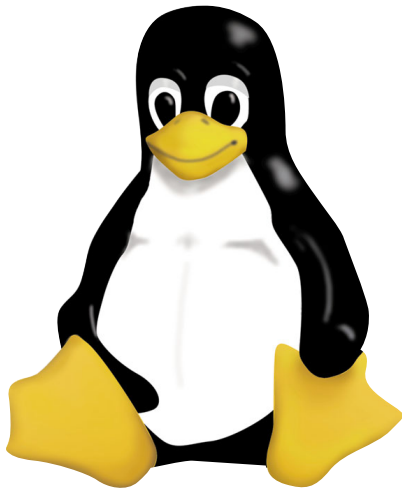
The unusually harsh economic conditions of the current recession have caused enterprises to rethink every aspect of their operations. One trend in IT is a reconsideration of open-source software in general and the Linux operating system in particular. Linux’s relatively low cost compared to operating systems from Microsoft and others makes it attractive to not only data centers and academic institutions, but also to retailers, government organizations, and workplaces in general.

“In tough economic times, users are looking to reduce capital expenditures and do more with fewer people,” says Brett Waldman, system software research analyst at IDC. “For companies with the in-house expertise, Linux makes sense for them due to its subscription-based licensing model and modularity.”

According to a recent IDC white paper sponsored by Novell, “Linux Adoption in a Global Recession,” about half of organizations polled worldwide plan to accelerate the use of Linux in their servers (53%) and on their desktop clients (48%) because of the economic downturn. These figures are highest in Asia and the Pacific Rim, with 73% and 70% reporting a greater intention to make use of the OS in servers and clients, respectively. In the Americas, two-thirds of organizations are currently evaluating a Linux expansion or have already decided to go ahead with one.

Retailer Enthusiasm

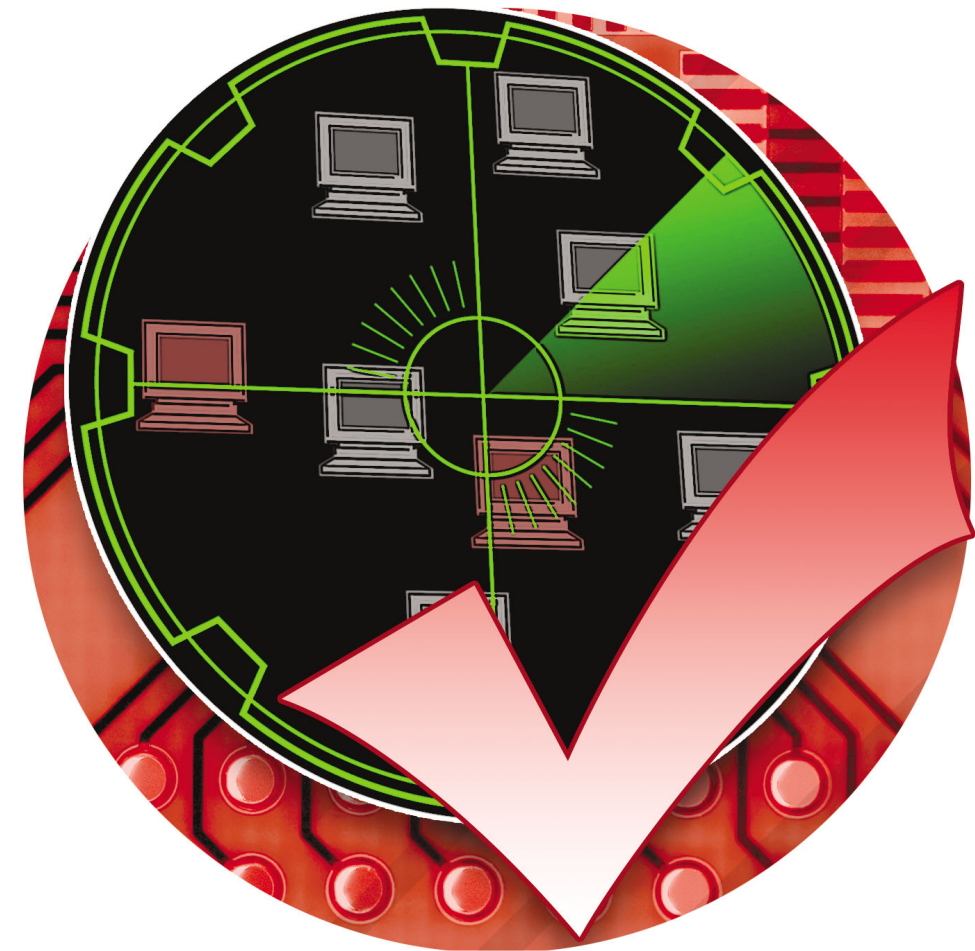
Retailers in particular showed an enthusiasm for a greater stake in Linux, with 59% of those surveyed declaring that the OS was the best choice for server duty and 61% strongly agreeing that expanded desktop use should be part of their plans going forward. Regarding the latter, half of all respondents say Linux should have a greater presence on their desktop clients. The recent popularity of low-budget netbooks, most of which run some form of Linux, was cited as one reason



for the open-source OS’ new appeal. Two other reasons include the rise of Web-based applications (cloud computing) and a greater focus on the bottom line because of current economic conditions.

However, Waldman says, not everyone is jumping on the Linux bandwagon. “Factors that are keeping Linux from growing its share on the server side at a faster pace include requisite in-house expertise, a large installed base of Unix applications that are not available on Linux (though this number is shrinking), and a lack of interoperability with Microsoft Windows. Though many of the interoperability issues are being solved, they are just starting to be implemented in the latest version of Windows and Linux products.”

by Marty Sems



and other cyber-criminals indeed have administrators on the defensive, forcing them to spend an inordinate amount of time figuring out where the next attack is coming from.

Rapid7 (www.rapid7.com) is a vulnerability management and compliance company that takes the approach of looking at all potential sources of vulnerabilities in an enterprise, scanning Web applications, databases, networks, operating systems, and other software to find threats, assess their risk, and devise remediation plans to mitigate those risks, says Corey Thomas, Rapid7’s VP of marketing and product management.

This approach is centered on the company’s NeXpose Unified Vulnerability Management application. The application uses an expert system to discover vulnerabilities in an enterprise network; once a vulnerability is discovered, NeXpose prepares security and compliance reports and a remediation plan to address the security/vulnerability issue.

What makes NeXpose different, according to Thomas, is the fact that while other

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Independent Study Shows The Importance Of Using Blanking Panels

A Complete Seal Is Necessary To Achieve Full Benefits

YOU’VE PROBABLY THOUGHT about your data center airflow problems in terms of below-, through-, and above-the-floor issues. But you may not have seriously considered the challenge of air recirculation within your server cabinets. Recirculation within a server cabinet occurs when the hot exhaust air from the rear of the server or from the hot aisle migrates toward the front of the cabinet and mixes with the cold, conditioned stream of air intended for the equipment air-intakes. This condition increases equipment intake temperatures, which can contribute to hot spots, the potential for reduced reliability of IT equipment, and the potential for wasted energy (which can lead to increased operating expenses).

Dr. Robert F. Sullivan, senior consultant at Uptime Technologies, has measured the temperature and volume of air being drawn into equipment air-intakes in cabinets not furnished with blanking panels. Dr. Sullivan found that as much as 20 percent of the total volume of air was hot exhaust air recirculated within the server cabinet. Mixing hot equipment exhaust air and conditioned air from the underfloor plenum can create air-intake temperatures that exceed the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)-recommended maximum of 80.6°F. This is especially true with cabinets that are more than 50 percent populated. Equipment located toward the top of the rack is affected more severely.

The best way to cope with this problem is to use blanking plates or filler panels. HotLok® Blanking Panels are the most effective and easiest to install.

Upsite Technologies, Inc., the designer and manufacturer of HotLok Blanking Panels, recently commissioned Innovative Research, Inc., an independent, third-party organization, to study and compare internal airflow in and around IT equipment cabinets under three conditions: (1) in the absence of blanking panels; (2) using blanking panels with horizontal air gaps between adjacent panels that measured 1/16 of an inch and 1/8 of an inch between the panels and servers; and (3) using HotLok Blanking Panels that do not permit air gaps between the blanking panels or between the blanking panels and servers. The study was conducted using two-dimensional, computational fluid dynamics (CFD) modeling. The findings are published in Upsite’s white paper *Two-Dimensional Computational Fluid Dynamics Analysis of Blanking Panel Solutions*.

Condition 2 (blanking panels with horizontal air gaps) reduced server air-intake temperatures by 11 to 22 percent over Condition 1 (using no blanking panels in the equipment cabinet). Condition 3 (HotLok Blanking Panels) proved to be 15 to 32 percent more effective in reducing server air-intake temperatures than Condition 1,

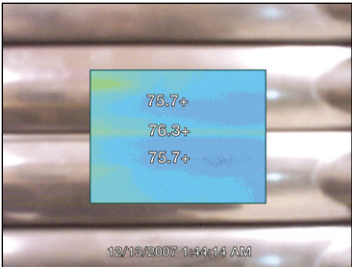
and showed an improvement of up to 14 percent over Condition 2.

The study showed that HotLok Blanking Panels virtually eliminate internal recirculation between the equipment mounting rails, resulting in uniform inlet-air temperatures from the bottom to the top of the cabinet.

The CFD model was confirmed using infrared (IR) thermal photography that shows high internal cabinet temperatures radiate through horizontal gaps between blanking panels without a complete seal. IR thermal photography of the HotLok Blanking Panels demonstrates the highly effective sealing technology.

There are significant benefits to using blanking plates, particularly HotLok Blanking Panels, including:

- Reduction and stabilization of equipment air-intake temperatures



In a data center with a conditioned air-flow temperature of 72°F and a series of non-HotLok Blanking Panels installed, the measured temperature of the heat radiating through the horizontal gaps is 91.5°F, much higher than the ASHRAE-recommended maximum of 80.6°F.

In a data center with a conditioned air-flow temperature of 72°F, a series of Upsite Technologies HotLok Blanking Panels are installed. The consistent temperatures shown on the face and gaps between the panels reveal the highly effective sealing technology.



- Elimination or reduction of the number and severity of hot spots within equipment cabinets
- Increased availability, performance, and reliability of IT equipment within the cabinets, especially in the top one-third of the equipment cabinet
- Elimination of exhaust air recirculation within the cabinet, which allows for the optimization of cooling and the reduction of energy consumption and operating expenses
- The possibility of deferring capital expenses to add additional cooling capacity or the ability to add more computing power to the data center
- The potential of greening the data center by reducing its carbon footprint

What differentiates HotLok Blanking Panels from others? HotLok Blanking Panels offer the following advantages:

- Engineered to provide one of the most effective seals available on the market
- Designed for quick, safe, tool-free installation
- Ergonomically and aesthetically pleasing
- Easy to use, compact to store and keep in stock for reconfiguring
- RoHS compliant
- Made of resins that are UL-Recognized with a V-O flame rating, UL File Number E56070
- Competitively priced

Study Of Air-Recirculation Problems & Solutions

Data Center & Cabinet Details

- Corporate data center for a large financial organization
- Uptime expectations are “24 x forever”
- Computer room configuration is Cold and Hot Aisle
- The cabinet tested is located about mid-row and is full of IT equipment, except for a 2U opening at the bottom of the cabinet.
- Grates are installed immediately in front of all cabinets in the cold aisle.
- The grates are supplying about 650 cubic feet per minute (CFM) of conditioned airflow at 53°F. The volume and temperature of conditioned airflow is sufficient to support the installed IT equipment.

was recirculating through a 2U opening in the front of the cabinet causing excessively high air-intake temperatures for the two lowest servers in the cabinet.

Findings

- The primary hot exhaust-air circulation pattern is under the lowest installed server, through the 2U opening.
- A secondary exhaust circulation pattern is around the sides of equipment, through the opening between the sides of the cabinet and rails.
- An insufficient volume of conditioned airflow is not the cause of the high air-intake temperatures.

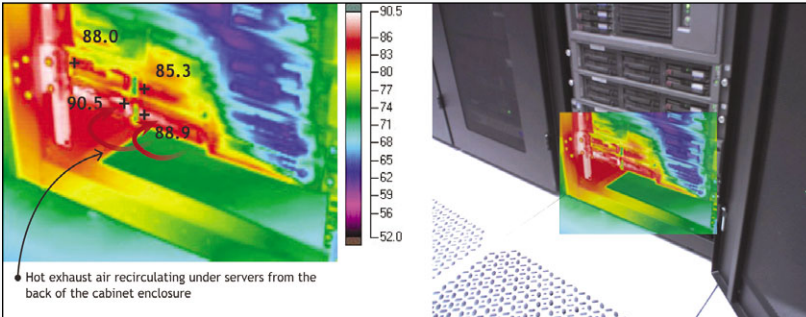
Solution & Results

- A 2U HotLok® Blanking Panel was installed in the opening at the base of the cabinet in less than one minute.
- IT equipment air-intake temperatures were recorded five minutes after installation of the HotLok Blanking Panel.
- Five minutes after installation of the 2U HotLok Blanking Panel, the air-intake temperature (of the four points measured in the server air-intake area) dropped by an average of 11.4°F.

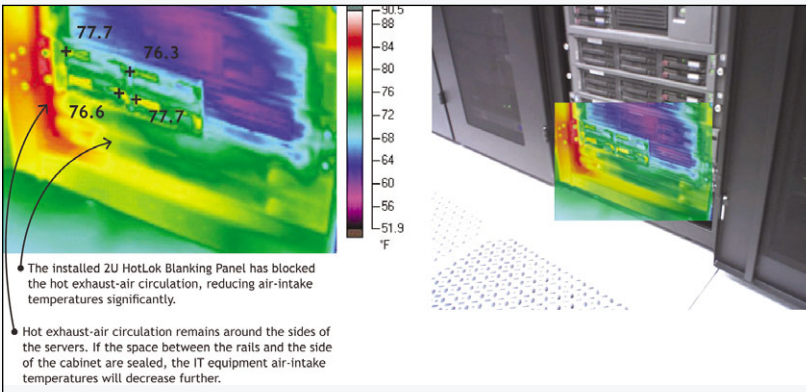
Problem Statement

IT equipment air-intake temperatures exceed the ASHRAE-recommended maximum of 77°F by as much as 13.5°F, putting equipment at risk of premature failure. IT equipment air-intake temperatures of 90.5°F were recorded for the server installed at the base in the IT cabinet enclosure, despite cold-aisle containment and installation of grates. Hot exhaust air from the back of the cabinet

HotLok® Blanking Panels are just one of the award-winning, highly engineered airflow solutions for the data center, designed and developed by the engineers at Upsite Technologies. Cool IT equipment more efficiently, increase reliability, save energy, and lower operating costs with these data center optimization solutions: HotLok® and KoldLok® products and Upsite® Services.



Infrared image of cabinet base five minutes before installation of the 2U HotLok Blanking Panel



Infrared image of cabinet base five minutes after installation of the 2U HotLok Blanking Panel

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PHYSICAL INFRASTRUCTURE



Leviton's P1070 Series PDUs & 4500 Series PDUs are flexible surge-protected power distribution units for small data centers

(800) 824-3005

www.leviton.com



Reliable Power Distribution Protects Equipment, Offers Mounting Options

Leviton P1070 & 4500 Series PDUs

Small to medium-sized enterprises with small data centers require a power distribution solution that delivers to high-demand electrical equipment. Computer rooms must be supported by robust power protection yet protect against circuit breaker overloads.

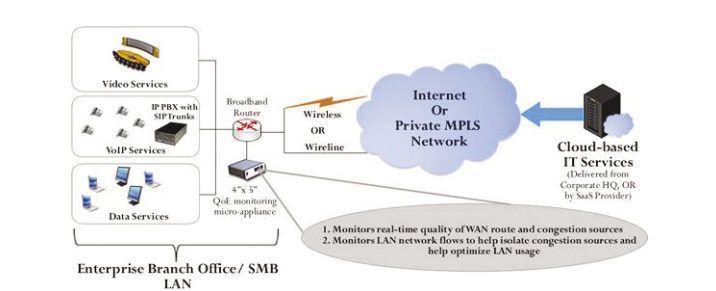
Leviton has released dual series PDUs—the P1070 and 4500 series—offering flexible power and compatibility with diverse applications. The Leviton P1070 Series with surge protection is configured for a vertical mounting specification. It prevents breaker overloads and indicates steady power protection through LED indicators representing power, polarity/ground, and surge protection. Leviton includes hardware for both standard- and button-mounting for this series, depending on data

center architecture. The P1070 also features cold-rolled steel, input cord strain relief, and a powder coat finish that repels corrosion. An extension bracket is also available.

The 4500 Series PDUs are ideal for horizontal rackmount applications; they mount on 19-inch racks or cabinets. A single PDU includes 12 receptacles that feature 10 rear and two front outlets. Specifically, the connectors utilize “quick-connects and IDC” to ensure minimal wire exposure.

The P1070 series comes with a three-year limited warranty; the 4500 series offers 10-year limited coverage. Standards compliance for the P1070 series is listed at UL 1449 3rd Edition and UL 60950-1, and the 4500 series rates at UL60950/#E228302.

NETWORKING & VPN




CloudCare helps SME and enterprise branch offices monitor their WAN service-level agreements and eliminate LAN congestion issues affecting cloud-based services.

\$30-\$60 per month

(877) 322-9888

www.packetisland.com



Keep Your LAN Free From Congestion

Packet Island CloudCare

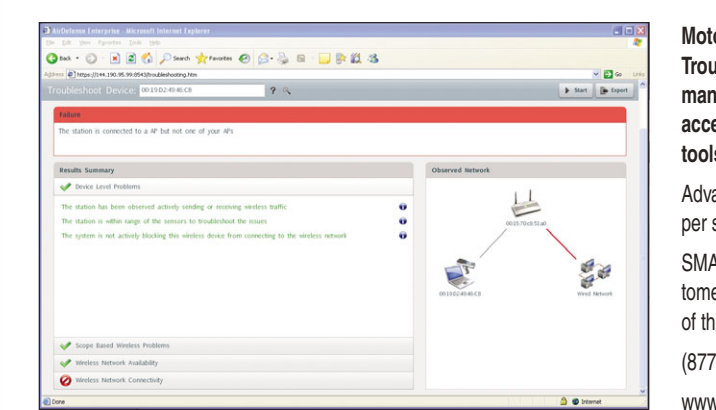
As more enterprises move toward the cloud-based IT model, one of the biggest challenges is finding a cloud-based service that offers visibility into how the LAN and WAN are affecting cloud-based services. When enterprises use SIP, trunking, video, and other real-time services, IT personnel must monitor the real-time quality of their WAN links and keep the LAN clear of any congestion issues.

To help SME and enterprise branch offices monitor their WAN service-level agreements and eliminate LAN congestion issues affecting cloud-based services, Packet Island has released the hosted service CloudCare. Rather than just allowing enterprises and managed service providers to simply monitor response time and the real-time quality of their WAN

or inter-site links, CloudCare offers detailed Network Behavior and Top-N-Flow Analysis of the enterprise’s LAN. This lets IT personnel find the LAN sources instigating the WAN congestion. A 4- x 5-inch microappliance that is permanently deployed at the customer site implements CloudCare in an in-line or mirrored-port configuration. Additionally, CloudCare is designed to deliver monitoring using real-time metrics such as jitter, delay, and loss.

Bandwidth alone does not ensure high quality of experience when it comes to transporting real-time services, such as VoIP and video. So, organizations need a cloud-based service, such as CloudCare, to succeed with the cloud-based IT model.

NETWORKING & VPN



Motorola Advanced Troubleshooting & SMART RF manage wireless networks with accessible troubleshooting tools and RF deployment.

Advanced Troubleshooting, \$295 per sensor

SMART RF, free for existing customers and included in the price of the RFS6000 and RFS7000

(877) 220-8301

www.motorola.com

PHYSICAL INFRASTRUCTURE



Black Box ServSwitch Wizard 8-Port DVI Dual-Link (USB) is ideal for users who depend on high-resolution video performance and need the flexibility to use multiple peripheral devices.

ServSwitch Wizard 8-Port DVI Dual-Link (USB) (KV2008A): \$1,179.95

ServSwitch Wizard 4-Port DVI Dual-Link (USB) (KV2004A): \$449.95

(888) 225-6921

www.blackbox.com/go/ServSwitchWizard


Remote Analysis & Secure RF Optimize Wireless LAN Networks

Motorola Advanced Troubleshooting & SMART RF

Advanced wireless LAN network management should rely on automation that’s efficient enough to determine which configuration issues are causing system bottlenecks or cross-platform downtime. IT managers need to rely on a centralized solution that will provide consistent network performance and self-healing features. Motorola now offers two wireless LAN network solutions: Advanced Troubleshooting and SMART RF (Self-Monitoring At Run Time Radio Frequency).

The Advanced Troubleshooting module combines multiple connectivity tools to remotely perform wireless client analysis, so help desk administrators can eliminate onsite travel. Specifically, the Client Connectivity Troubleshooting tool will allow Tier-1 help desk employees spot the network- or device-level problem and decide whether it can be resolved or should move to another department. Advanced Troubleshooting also includes the Access Point Connectivity Testing Module for remote testing using a wireless sensor to evaluate end-to-end network application data paths.

Motorola’s SMART RF technology features Wi-NG (Wireless Next Generation) switch architecture and employs various dynamic management methods to configure and operate the RF network. SMART RF assigns access points to prepare for loss of coverage, checks the performance of each wireless client, and mitigates overlapping access point channel coverage. Overall, the solution lets the enterprise control the security of its wireless networks by offering comprehensive protection and experiential service.



MOTOROLA

USB True Emulation, Hotkey Support & Immediate Switching

Black Box ServSwitch Wizard 8-Port DVI Dual-Link (USB)


The ServSwitch Wizard™ 8-Port DVI Dual-Link (USB) (KV2008A) from Black Box is the first product to feature USB True Emulation. This breakthrough technology ensures that the full characteristics of the connected USB peripherals are passed to every system, so specialized features are quickly recognized on the attached devices. What’s more, each computer retains this information—even if the device is plugged into another computer.

The switch lets users connect to up to four USB peripherals. Thanks to its USB True Emulation technology, the switch supports HIDs (human interface devices) while still working with traditional USB. It avoids many of the limitations found in traditional emulations, enabling instantaneous switching and hotkey support.

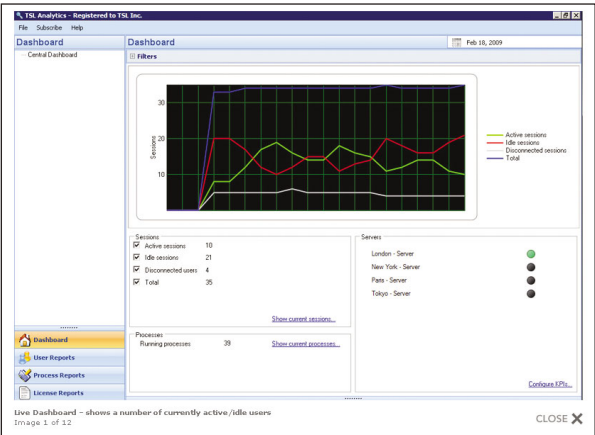
When a user connects USB devices, the switch simultaneously emulates the character

of the devices to all computers. The switch’s architecture combines transparent USB 2.0 protocol with emulated keyboard and mouse control. There are two dedicated keyboard/mouse USB ports on the switch’s console plus two USB 2.0 transparent ports for any USB 2.0 peripherals.

The user can share high-end video and any four USB peripherals (including the keyboard and mouse) between up to eight workstations. The switch offers true DDC EDID support. Switching can occur via hotkeys, mouse, dry contacts, or even RS-232/V.24. The ServSwitch Wizard 8-Port DVI Dual-Link (USB) is ideal for users who depend on high-resolution video performance and need the flexibility to use multiple peripheral devices.



NETWORKING & VPN



Terminal Services Log's various reports let enterprises monitor the users on a terminal server, the applications in use, software-compliance issues, and more.

\$299 per server Standard; \$499 per server Professional

(360) 200-4299

www.terminalserviceslog.com

Windows & Citrix Server Monitoring

TSL Terminal Services Log

As server-monitoring applications go, TSL's Terminal Services Log gives companies an easy-to-use method for monitoring both the specific users connected to the company's terminal server and the programs they're using on the server. With recent upgrades to the program, however, companies can now use Terminal Services Log to monitor internal IP addresses for a client, WAN client IP, and client name; verify that the company meets software license compliance requirements or determine if additional licenses need purchased; and access additional calendar functions to check specific dates and hours for who has logged on to the server.

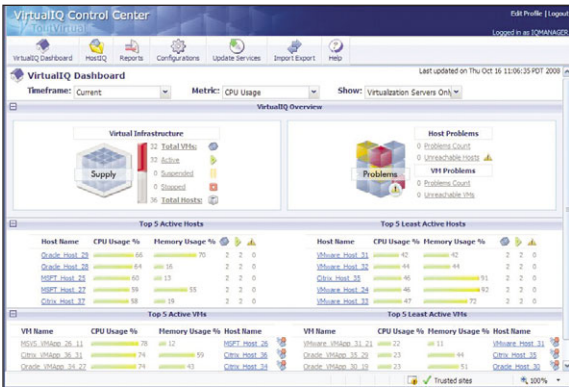
Designed to help system administrators pinpoint abusive or unusual computer usage and prevent malfunctions from occurring, the Windows-based Terminal Services Log runs on Microsoft Windows Terminal Services or Citrix Presentation Server/XenApp foundations and is also compatible with Quest VAS, Ericom Powerterm, and other application-delivery

programs. In addition to providing real-time data on active, idle, and disconnected server sessions via a Live Dashboard interface, Terminal Services Log provides daily, weekly, and monthly activity reports to identify server usage trends. A Centralized Monitoring Terminal Services Log, meanwhile, allows for monitoring an entire server farm from one console.

Beyond detailing server-based applications users are frequently accessing, the program provides summarization, filter, exporting, and printing options. Additionally, reports for auditing the processes on the server are provided, as is the ability to determine the total process instances a user has started, the amount of time an application has been used, and the average time an application was used, active, and idle. For further convenience, administrators can configure their email to automatically deliver these reports.

Terminal Services Log

NETWORKING & VPN



ToutVirtual VirtualIQ extends the three-step—design, deploy, and deliver—virtualization process to Citrix XenServer clients.

Starts at \$199 per CPU socket per year

(877) 882-5766

www.toutvirtual.com

Help For Three Stages Of Virtualization

ToutVirtual VirtualIQ

Organizations have been using ToutVirtual VirtualIQ to compare how a variety of platforms perform running various programs. Now businesses that use Citrix XenServer can utilize VirtualIQ, as well. Because all editions of Citrix XenServer are supported, organizations that operate on the XenServer platform can now utilize VirtualIQ's ability to support virtual server room operations via three stages of virtualization: design, deploy, and deliver.

By helping users through all three stages of virtualization, VirtualIQ is designed to give users visibility and policy-based control in managing the XenServer-based environment, which lets them make better, more informed decisions about virtualization optimization.

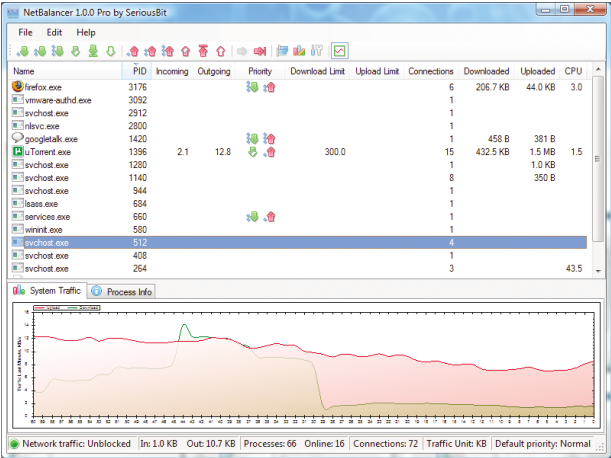
VirtualIQ lets users compare several different virtualization platforms and make decisions

from a unilateral Web console integrated into the VirtualIQ application. Through the Web console, IT personnel can perform daily virtualization management tasks such as capacity planning, performance management, visibility and reporting, incident management, and more.

VirtualIQ also allows for role-based Web access with host-level and VM-level granularity to broaden IT management to XenServer-based virtualization platforms. Additionally, VirtualIQ uses the "Crawl-Walk-Run" methodology, which provides user-determined control for automating virtualization infrastructures.



NETWORKING & VPN



SeriousBit NetBalancer is an Internet traffic control and monitoring tool designed for Windows XP/2003/Vista.

+373-7945-3294

www.seriousbit.com

Internet Traffic Control

SeriousBit NetBalancer

How do you combine required network activities without getting slowed by bandwidth-hogging activities? Most traffic-shaping tools set speed limits for applications and processes, though it is not very convenient. For example, you limit your downloading speed and surf your favorite Web site. When you are done with surfing, the bandwidth is free, yet your downloading speed is still limited. Dealing with limits implies constant tuning of your traffic-shaping program.

With SeriousBit NetBalancer, such problems are obsolete. In addition to traffic limits, you can set download and upload priorities for all applications. Applications with higher priority get more bandwidth than those with lower priority.

Unlike other traffic-shaping software, NetBalancer does not limit low-priority applications when high-priority ones don't use the network. The limits are changed automatically according

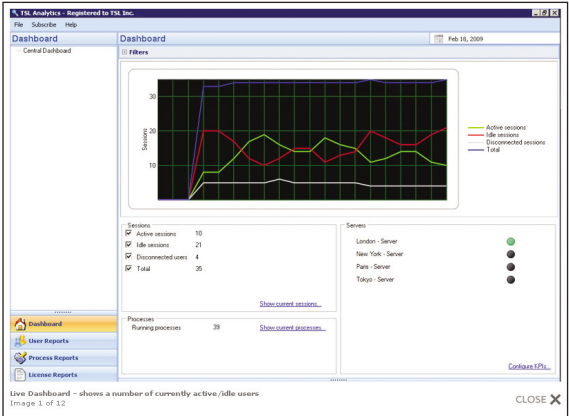
to priorities, giving NetBalancer an advantage over other similar tools.

NetBalancer lets you:

- Set download and upload network priority for any process. Current priorities include High, Normal, Low, Block Traffic, Ignore Traffic, and Limit Traffic
- Set download and upload speed limits
- Show all system processes with their in and out network traffic speed
- Show current connections for any process
- Show downloaded and uploaded traffic for any process since NetBalancer's start
- View overall system traffic as a graph
- Show last 15 seconds of traffic
- Fine-tune priorities with Level Severity

SeriousBit
Performance and Reliability

NETWORKING & VPN



OpManager On-Demand, an integrated network- and systems-management suite, is the first of many applications ManageEngine plans to make available as SaaS releases in 2009.

Free beta; General availability planned for Q2 2009

(888) 720-9500

www.manageengine.com

Network- & System-Management Suite Reaches The Cloud

ManageEngine OpManager On-Demand

More than 35,000 global companies use various network-, systems-, and security-management software from ManageEngine, a division of AdventNet. That total is likely to grow with the release of ManageEngine's OpManager On-Demand, an integrated network- and systems-management suite that's now available as a SaaS-based release.

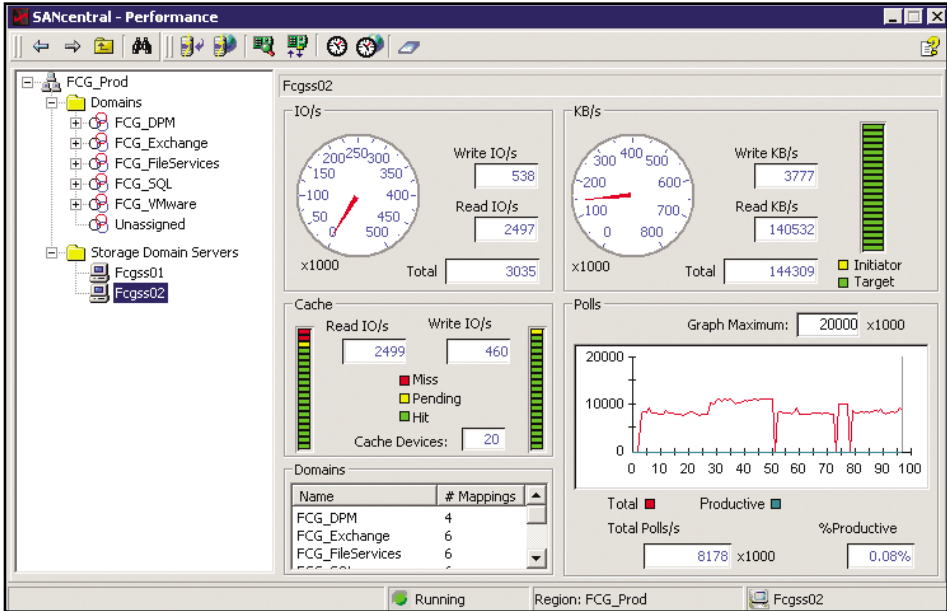
Based on the cloud computing framework initially designed for Zoho—a suite of online services including CRM, office productivity, and collaboration apps, and another division of AdventNet—OpManager On-Demand gathers fault- and performance-related data across a company's servers, desktops, and installed applications and details how disruptions in the infrastructure are affecting business services. For SMEs, the SaaS approach keeps administrators from buying and provisioning servers or installing and configuring software. Companies, meanwhile, can purchase licensing fees on a pay-as-you-go model, saving them

money, time, and effort. For Managed Service Providers, OpManager On-Demand provides a cost-effective method to offer remote-management abilities to customers, who in turn subscribe to a service and provide it to their respective customers, all without the associated high cost, time, and effort.

Based on a probe-server model that operates over the Internet to monitor all systems on the network from one central server, OpManager On-Demand's features include real-time alerts and statistics for network components, as well as EventLog, MSSQL, Printer, Server, Switch, Router, URL, and Active Directory Monitoring. Active Directory Monitoring, for example, provides CPU, memory, and disk-space usage monitoring with real-time statistics available.



STORAGE



Fairway Consulting Group is a Premier Channel Partner for DataCore Software, with products focusing on storage virtualization, management, and networking.

www.fairwayconsulting.com

(866) 516-5491



Best-Of-Breed Storage Virtualization

DataCore Software From Fairway Consulting Group

Is your company considering or already implementing virtualization technologies? Planning your budget for new hardware? If so, you might be concerned about where to begin or whether your strategy is the best one for your enterprise.

Fairway Consulting Group offers a combination of much-needed services based on “best-of-breed” virtualization technologies, including storage, server, desktop, and disaster recovery. As a channel partner with several leading virtualization product manufacturers, Fairway Consulting helps small to enterprise-level companies focus on issues of sustainability, explosive data growth, increased performance

demands, end-of-life hardware, and disaster recovery.

Fairway Consulting Group is a Premier Channel Partner for DataCore Software, with products focusing on storage virtualization, management, and networking. DataCore products, including SANmelody, SANSymphony, SANmaestro, and Traveller CPR, offer a combination of features and functionality to suit any enterprise’s needs.

DataCore SANmelody overcomes the high cost barrier and complexity of traditional SAN storage. SANmelody converts standard

Intel/AMD servers, blades, or VMs (virtual machines) into fully capable storage servers that virtualize disks and serve them over iSCSI or Fibre Channel to an existing network of application servers.

Why DataCore Over Virtual Hardware Platforms?

DataCore is intelligence only, allowing the flexibility that conventional hardware virtualization cannot provide. Why buy all new hardware or buy more hardware than you really need? DataCore allows you to use your current hardware to its maximum utilization while

giving you increased utilization with your new hardware.

Here are a few of the features you can expect from DataCore:

- Completely hardware independent
- 65% increased storage utilization on average
- World-record performance I/O
- True HA with active/active paths
- AIM (asynchronous mirroring over IP)
- Snapshot (pointer-based or image)
- 100% investment protection on upgrades
- iSCSI or Fibre Channel-ready

STORAGE



The Asempra Business Continuity Server consolidates backup, business continuity, disaster recovery, recovery management, compliance, and governance into a single product.

(408) 215-5800
www.asempra.com



Game-Changing Data Protection

Asempra Business Continuity Server

Asempra’s Business Continuity Server is a game-changing data protection solution that focuses on what really matters—recovery of business- and mission-critical data—and, in the process, solves the real complexity and cost issues associated with enterprise data protection.

In order to successfully protect data in today’s sophisticated application environment, as well as to survive tomorrow’s challenges, one must create an integrated recovery platform that is capable of handling all types of failures, whether they occur singly or concurrently.

Asempra’s Business Continuity Server provides application-driven data recovery, reducing recovery time due to a patented innovation called VODR (Virtual On-Demand Recovery). This innovation allows access to data on-demand so the application can start running immediately after a recovery is started, even before the entire protected data set is recovered. Recovery of the data that the application is not currently using continues in the background while this on-demand recovery is taking place. This enables the application to be available within seconds or minutes instead of waiting for a full recovery to complete.

The management complexity and high cost of solving data protection and recovery issues today is rooted in the fact that it takes multiple tools to get the job done. This leaves IT professionals spending hours trying to integrate disparate tools and manually recover data in an attempt to simulate a real-time infrastructure needed to support their business operations. Business Continuity Server eliminates these issues by consolidating the needs of backup, business continuity, disaster recovery, recovery management, compliance, and governance into one solution that dramatically reduces the cost and complexity of mid-market IT data protection.

STORAGE



Barracuda Backup Service Integrates Local & Secure Offsite Backup For Disaster Recovery

Starts at \$49 per month
(888) 268-4772
www.barracuda.com/backup



Get Onsite & Offsite Backup

Barracuda Backup Service

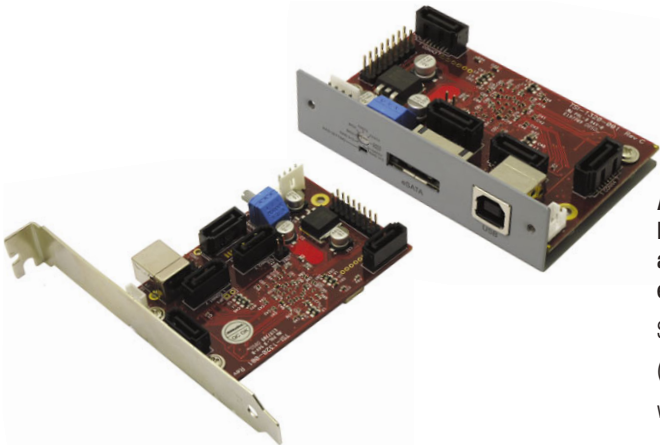
The Barracuda Backup Service is an affordable, integrated local and offsite data backup and disaster recovery solution that combines an onsite appliance with a monthly subscription that replicates data to two offsite locations. Combining local and offsite storage provides the best of both worlds—onsite backups for the fastest restore times and secure, offsite storage for disaster recovery.

Designed for organizations of any size, the Barracuda Backup Server creates a local copy of data and efficiently transfers the data offsite without any additional burden on production servers. Offsite storage is monitored and managed by Barracuda Central as part of the Barracuda Backup Subscription, and tech support and emergency restores are included, as well.

Deployed in varied, complex IT environments, the Barracuda Backup Service protects mission-critical business information, utilizes industry-standard networking protocols to access data for backup, and is compatible with all major operating systems.

The Barracuda Backup Service Web control panel makes it easy to manage and back up data to multiple units at one or more locations—from anywhere. It also provides control of settings, reports, restores, statistics, and account information in order to manage Barracuda Backup Servers and Barracuda Backup Subscription plans. In addition, customers receive automated alert notifications via the Web control panel when conditions affecting backup service are detected.

STORAGE



Addonics 4x1 eSATA/USB Hardware Port Multiplier turns a storage enclosure into an eSATA or USB 2.0 RAID box.

\$89.95
(408) 573-8580
www.addonics.com

eSATA RAID For A Storage Box

Addonics 4x1 eSATA/USB Hardware Port Multiplier

Your storage towers may have room to grow but probably not all in the same type of bay or slot. Some may have only a rear SCSI-1 bay free, while others may have a “no vacancy” sign everywhere but the expansion card slots. What your data center requires is a product line that’s flexible enough to meet your needs, such as the 4x1 eSATA/USB Hardware Port Multiplier from Addonics.

This new hardware RAID SATA controller from Addonics comes in two formats. The system version (part number AD4SR5HPMU-S) of the 4x1 eSATA/USB Hardware Port Multiplier comes mounted on

an expansion card with a bracket. The card has no edge connector, so it can be used over any type of expansion slot, such as PCI, PCI-E, or AGP.

The enclosure version fits in a SCSI-1 rear-mounted bay with a 50-pin Centronics connector. Its part number is AD4SR5HPMU-E.

Both devices are meant to be installed in an external storage enclosure and to be connected to a separate host system via eSATA or

USB 2.0. Using port multiplication, they support RAID 0 (two- and four-drive), 3 and 5 with a spare and a combination of mirroring and striping. Hardware switches let you set the RAID type without software.

The four-drive HPMS, each of which costs \$89.95, can be configured in a daisy chain for scalability. The RAID’s they create will be seen by the host system’s OS as a single drive. They’re bootable, too, and they support hot swapping.



STORAGE

New Backup & SaaS Offerings Provide Storage Flexibility

NovaStor NovaBACKUP Remote Workforce & NovaBACKUP xSP

As data center specialists more frequently consider purchasing IT services over IT licenses, options such as NovaBACKUP Remote Workforce and xSP have become more relevant due to their high flexibility, functionality, and service capabilities.

Specifically, NovaBACKUP Remote Workforce backs up local and online data for the mobile workforce. An enterprise can back up sensitive mobile data to a central data center while allowing the end user to access and back up local data, as well. Online backup functions as a contingency plan in the event that files are lost by the user. To cut costs, SMBs can implement data protection standards that reduce the number of cross-enterprise data backup systems.

NovaBACKUP xSP gives service providers the opportunity to promote cost-effective SaaS solutions. ISPs can use the NovaBACKUP xSP modular system to enable local imaging and online encryption. Other critical features include interface customization, 24/7 account access for customers, automation options, reporting, and administrative control. Overall, both solutions give service providers the freedom to restore business-critical data through innovative choices.



NovaStor NovaBACKUP Remote Workforce and NovaBACKUP xSP give off-site data backup and SaaS enterprise options for IT resellers.

NovaBACKUP Remote Workforce Standard, \$995 for 10 licenses

NovaBACKUP Remote Workforce Advanced, \$1,493 for 10 licenses

NovaBACKUP xSP Start, \$995 for 10 licenses

NovaBACKUP xSP Essentials, \$3,995 for 35 licenses

(805) 579-6700
www.us.novastor.com



SECURITY



Barracuda Networks Barracuda Web Application Firewall 860 and 960 stay ahead of hackers by thoroughly inspecting HTTP, FTP, and HTTPS Web application traffic.

\$24,999 (860); \$34,999 (960)
(888) 268-4772
www.barracudanetworks.com



High-End Protection

Barracuda Networks Barracuda Web Application Firewall 860 & 960

The new 860 and 960 models of the Barracuda Web Application Firewall proxies HTTP, FTP, and HTTPS Web application traffic for thorough inspection, rather than merely letting it pass. It shuts down avenues of attack through vulnerabilities in applications and protocols, keeping hackers at bay.

The new 2U firewalls, each with two front and one rear 1Gbps Ethernet connections, guard against threats such as SQL injections, buffer overflows, XSS attacks, and session interference. The 860 and 960 can disconnect Web server HTTP traffic in order to detect and remove space padding and decode character sets. They’re able to integrate with PKI for client-identity

verification using certificates. Moreover, the 860 and 960 can deal with application-access control vulnerabilities, keeping cookies from being maliciously altered and the access control system from becoming corrupted. There’s outbound protection, too, including safeguards against sensitive data leakage.

The Barracuda Web Application Firewall 860 (\$24,999) supports up to 600Mbps of inbound traffic, as compared to the 960 (\$34,999) and its 900Mbps inbound capacity. The 860 can support between 25 and 150 backend servers; the 960 can support 150 to 300. Both firewalls support for ECC memory, content routing, load balancing, and XML firewall.

MESSAGING & TELEPHONY

Recovery For OST Files

DataNumen Advanced Exchange Recovery 2.0

There are many hardware and software reasons, including server crashes or malicious software, that can make offline storage (.OST) files inaccessible. But such files still contain your mail messages and other items of your mail account that you may need. With DataNumen’s Advanced Exchange Recovery 2.0, you can recover as much data as possible and save it as Outlook files.

Advanced Exchange Recovery 2.0 makes it easy to retrieve the contents of your mailbox, recovering mail messages, posts, folders, notes, appointments, contacts, and other

mail account items from OST files and saving them as Outlook .PST files. Message properties (subject, date, to, from, etc.) and subobjects (attachments, embedded objects) are also recovered.

Because of a byte-level scan performed by an advanced algorithm, the program recovers all possible items in OST files. And it works where other similar solutions fail.

Advanced Exchange Recovery includes the ability to recover password-protected OST files or deleted items in OST files and OST

files on any corrupted media. Plus, it can recover mail messages in plain text, RTF, and HTML format.

Other features include:

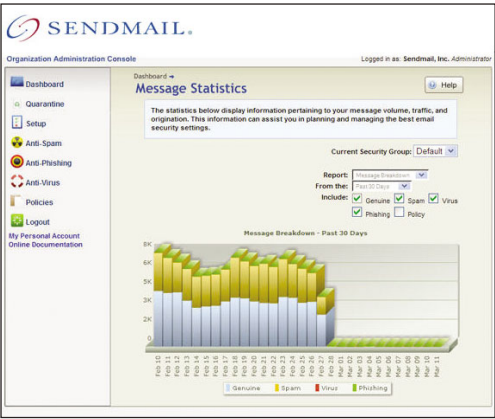
- Ability to convert Exchange OST files to Outlook PST files
- Support for Exchange Server 2007 and Outlook 2007
- The ability to recover and split oversized OST files
- Batch recovery
- Search features to find OST files on the local PC

DataNumen Advanced Exchange Recovery 2.0 makes it easy to retrieve the contents of your mailbox and save them as Outlook files.

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MESSAGING & TELEPHONY



Sendmail Sentrion Cloud Services is a standalone product that works with the Sentrion Message Processor to handle message routing and content policy enforcement.

Pricing varies by plan

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A Flexible Malware Filter

Sendmail Sentrion Cloud Services

Does your enterprise need a few spam- and virus-filtering services, rather than a single, comprehensive set of email protection tools? With Sendmail Sentrion Cloud Services, your enterprise can choose from a suite of protection for antispam, antivirus, and IP reputation functionality. Because of its flexibility, Sentrion Cloud Services is ideal for those looking to modernize and design an enterprise email infrastructure.

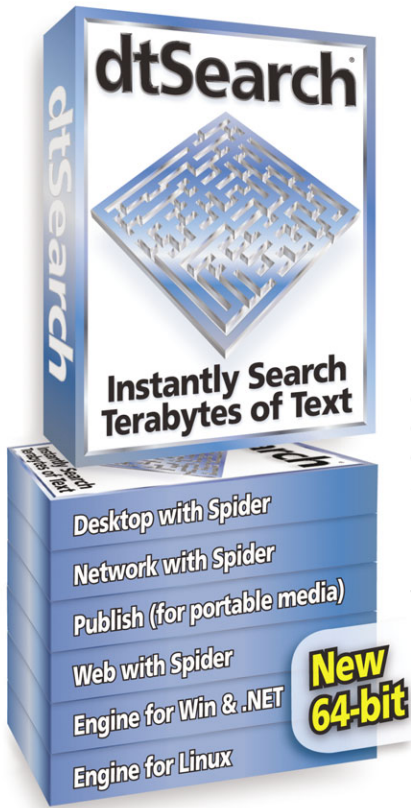
Sentrion Cloud Services works in conjunction with an on-premise Sentrion Message Processor infrastructure to provide message filtering and ensure corporate governance for internal policy and routing requirements. It reduces the onsite infrastructure required to manage spam, and the SaaS’ simple provisioning saves time and administrative costs. The zero-hour anti-virus protection, as well as industry-proven anti-spam and IP reputation, delivers a unified service that addresses the complex problems of policy-based message handling and routing.

Sendmail’s service includes antiphishing technology (based on heuristic scanners and URL filtering), attachment filtering, support for TLS encryption, off-premise spam quarantine, and LDAP directory synchronization for end-user provisioning. Administrators can set up end-user policies for whitelists and blacklists and filter spam based on country and language. Customers can also use Sentrion Message Processor appliances for a hybrid-hosted solution designed to meet the enterprise’s specific requirements.

Enterprises can use Sentrion Cloud Services to reduce infrastructure costs, because it requires fewer servers at the gateway to accept inbound email and reduces the data center footprint, network traffic, storage costs, and energy consumption.



CLIENTS



- dtSearch products have received hundreds of excellent press reviews.
- The dtSearch Web site also has hundreds of developer case studies posted at www.dtsearch.com.

dtSearch Version 7.6 releases cover both developer products, with new expanded sample code for use with Microsoft’s most recent Visual Studio version, and enterprise products, with updates to the user interface.

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The Smart Choice For Text Retrieval® Gets Better

dtSearch Version 7.6 Releases Extend 64-Bit Capabilities In Enterprise, Developer Products

dtSearch, a leading supplier of enterprise and developer text retrieval software, has extended its 64-bit product line. The new release covers both dtSearch’s enterprise and developer products, including native 64-bit versions. For the developer products, the new release provides expanded sample code for use with Microsoft’s most recent Visual Studio version. For the enterprise products, the new release updates the user interface, providing a greater selection of “look and feel” options for users.

converters for a wide range of popular file types. dtSearch products display existing Web-ready content (HTML, PDF, XSL/XML, etc.) with highlighted hits, and with all images, links, and formatting intact. For other file types, such as MS Office, OpenOffice, and ZIP, built-in proprietary converters render these document types as HTML, with highlighted hits, for display in a Web browser. The dtSearch Engine includes a data source API for indexing SQL-type databases and other non-file data, including BLOB data.

The Version 7.6 release includes:

dtSearch Desktop with Spider, which instantly searches files on a PC, and **dtSearch Network with Spider**, which searches across a network. Both instantly search and display, with highlighted hits, a variety of file types, including email messages along with the full text of email attachments. Through the Spider, both applications can also add Web content to a local or network search.

Spider. The dtSearch Spider adds local or remote Web site content to a searchable data collection. The Spider supports public sites, intranets, HTTPS, password-accessible sites, and forms-based authentication sites. The Spider supports both static and dynamic Web-based content, including ASP.NET, PHP, MS CMS, and SharePoint, indexing to any level of vertical or horizontal depth. dtSearch products support integrated searches of local and remote content, including WYSIWYG hit highlighted display of Web-ready data.

dtSearch Web with Spider quickly publishes a large volume of instantly searchable data to an IIS Internet or intranet site. dtSearch Web works as a point-and-click solution, with no programming required. The Spider provides integrated support for local and remote Web site data.

Search features. Full-text and fielded data search options include: distributed or federated search options with integrated hit-highlighted display, fuzziness adjustable from 0 to 10 (to sift through typographical and spelling errors), synonym/concept/thesaurus (through a built-in thesaurus and/or user-defined synonym rings), Boolean (and/or/not), phrase, phonic, wildcard, bilateral proximity, directed proximity, stemming, natural language/vector-space relevancy ranking, variable term weighting, positional scoring, field-based relevancy ranking, data classification and filtering objects, numeric range searching, advanced date recognition, unindexed search (in addition to indexed search), and special forensics search options (text filtering of forensically-recovered data, credit card search, email search, etc.).

dtSearch Publish lets users easily publish instantly searchable document collections or Web site content to portable media such as CDs, DVDs, and external hard drives.

The dtSearch Engine lets developers add dtSearch functionality to 32-bit and 64-bit applications. The **dtSearch Engine for Win & .NET** supports C++, Java and .NET, including a .NET Spider API. The new release provides expanded sample code for use with Microsoft’s most recent Visual Studio version. The **dtSearch Engine for Linux** supports C++ and Java.

International language support. Built-in Unicode support covers hundreds of international languages (including right-to-left languages and Chinese/Japanese/Korean character processing options).

The dtSearch product line features:

Terabyte Indexer. dtSearch products can index more than a terabyte of text in a single index. They can also create and simultaneously search an unlimited number of indexes. Indexed search time is typically less than a second, even across terabytes of data.

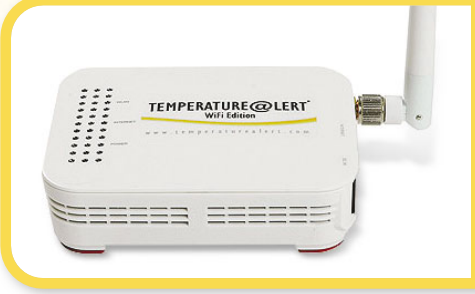

File formats and databases. dtSearch products include integrated file parsers and



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- > Support for SMTP authentication
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- > Precalibrated sensor
- > Includes free software upgrades for one year
- > Logs temperature readings to text and XML
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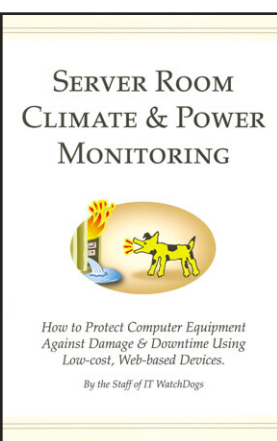
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CLIENTS

■ Acer Veriton X270

Acer released the Acer Veriton X270, a series of business desktop PCs that are compact in size but feature an Intel Core 2 Duo dual-core processor and Nvidia GeForce 7100 integrated graphics. The latter is augmented with Nvidia PureVideo HD technology and HDMI support for videoconferencing needs. The Acer Veriton X270 PCs are also set up for easy IT management, remote control, and patch deployment.



■ AnyDoc EXCHANGEit 5.1.2

AnyDoc Software announced the release of version 5.1.2 of its AnyDoc EXCHANGEit software. EXCHANGEit acts as a bridge between incompatible data formats and incorporates a drag-and-drop data-mapping interface that eliminates manual data transfer. AnyDoc EXCHANGEit is ideal for moving captured data and document images to accounting, ERP, ECM, or other back-end systems. Version 5.1.2 features security upgrades, including Active Directory group-level permissions, data encryption with port-level communication, and new options for data transfers.

■ Fujitsu ScanSnap S1500M & S1500

Fujitsu has added two scanners to its ScanSnap product line. The ScanSnap S1500 is geared toward Windows PC users, while the ScanSnap S1500M is aimed at Mac users. Both models feature newly designed Manager and Quick menus and intelligent processing technology that can scan various documents without manually adjusting the scanner settings. The scanners can also automatically scan documents and set page size, orientation, color, and double- or single-side paper settings. New ultrasound-based paper feed detection technology senses multiple paper feeds and provides an additional security layer to avoid lost images. The scanners also include automatic image quality adjustments via evaluations of the document size and identifying the paper's color, black and white, or grayscale traits. Both scanners have scan speeds of up to 20ppm or 40 images per minute. Each scanner is priced at \$495.

■ General Dynamics Itronix GD8000

General Dynamics Itronix announced a highly ruggedized notebook, the GD8000, which is ideal for military personnel, first responders, field service workers, and others who work in harsh environmental conditions. The GD8000 can withstand extreme temperatures, is water-resistant, and features a 13.3-inch touchscreen that's viewable in any lighting condition. The notebook also features 10 hours of battery life and is impact-resistant.

■ HP SWFScan

HP announced its SWFScan, a free tool designed to help Flash developers protect their Web sites against unintended application security vulnerabilities and reduce the risk of hackers accessing sensitive data. Features include the ability to check for known security vulnerabilities that are targeted by malicious hackers, to fix problems quickly by highlighting vulnerabilities in the source code and receiving solid guidance on how to fix the security issues, and to verify compliance with best security practices and guidelines.

■ Kofax Transformation Modules Version 4.0

Kofax announced version 4.0 of its Transformation Modules, which are designed to intelligently automate the classification, sorting, and separation of paper and electronic documents and then extract and validate the accuracy of the information they contain. Features include one platform for all document types, enhanced ease of use, and application flexibility.

■ Lenovo ThinkStation S20 & D20

Lenovo unveiled ThinkStation S20 and D20, which are workstations designed exclusively for specialized professionals in fields such as computer-aided design, digital content creation, and oil and gas. The workstations help professionals innovate faster and reduce the time between an idea and a product. Features include the Nvidia Tesla C1060 GPU platform, Intel Xeon processors, and certifications from leading independent software vendors to help ensure compatibility between workstations and major applications. The devices support Red Hat Enterprise Linux 5.2 and come loaded with Windows Vista.

■ Motion Computing J3400 Rugged Tablet PC

Motion Computing announced the J3400, the latest offering in the company's line of rugged tablet PCs. Intended for mobile workers who compute on their feet, the J3400 is designed to be lightweight with ergonomic design and integrated features that allow it to adapt easily to a broad range of demanding work environments. Features include a hot-swappable dual-battery design for longer battery life, a 1.8-inch hard drive with extra shock protection, a shock-mounted display, a 2MP camera, a smart card reader, a biometric fingerprint reader, and GPS capabilities.

■ NextComputing Vigor Evo HD DFS

NextComputing added the DFS (Dust Filtration System) to the Vigor Evo HD system to keep particles from covering components and eroding vital parts. The DFS option protects against very fine dust. Features include bottom dust filters, removable covers, and airflow filters with a removable brush. The flexible system is upgradeable to accommodate environment changes. The Vigor Evo HD DFS is shock-resistant to increase case protection. Vigor Evo HD systems include two quad-core Intel Xeon processors, up to 5TB of data storage, and three PCI-E slots.

■ Océ CS4300 Scanner Series

Océ released its CS4300 wide-format scanner series with interpolated resolution.

The CS4300 can produce 9600 dpi and features 600 x 600 dpi optical resolution. The CS4300 series can scan originals that are 15mm thick and supports numerous applications; it also scans in full color or monochrome. By supporting 2D and 3D CAD drawings, posters, and photos, the CS4300 functions as a multi-use scanner. Additionally, the CS4300 uses a clock timer for Sleep mode and Power mode.

■ OKI Printing CX2640, CX1145 & CX2033 MFPs

OKI Printing announced three color MFPs: CX2640, CX1145, and CX2033. Each provides enhanced capabilities for different-sized workgroups. The CX2640 tabloid/A3 color MFP produces 26ppm in color (40ppm in black and white) via the HD Color and Single Pass Color technologies. The CX1145 tabloid/A3 color MFP offers low monochrome cost per page without limiting printing output. The CX2033 letter/A4 MFP is designed for desktop printing due to its space-saving design—it executes print, copy, scan, and fax capabilities on a single network.



MESSAGING & TELEPHONY

■ Axigen 7.0

Axigen released Axigen 7.0 with Microsoft Exchange ActiveSync support for mobile devices. It also features Push email technology; contact, calendar, and task synchronization; and an up-to-date public address book search. This release supports Nokia Symbian, iPhone, and Windows Mobile devices. Axigen 7.0 also supports LCAP & Active Directory synchronization for managing customer accounts and the deployment of security policies. The Active Directory Management Console offers more control over domain accounts and the efficiency of administrative operations. Two-way synchronization includes account/group deletion, account configuration, and group membership.



■ Ensism Unify Enterprise Edition 2.7

Ensism released version 2.7 of its Unify Enterprise Edition software, which the company says supports Active Directory, Microsoft Exchange, BlackBerry, Windows Mobile, OCS (Office Communications Server), and other platforms. Ensism also states that this version of the software will let companies more easily meet compliance directives via enforced standardization, plugging security holes, and eliminating reliance on manual processes and scripts. Other features in version 2.7 include enhanced distributive group management, support for cloud computing projects, company-wide security policies covering mobile devices, improved management of email aliases, and mailbox storage management.

■ Sherpa Software Archive Attender 3.5

Sherpa Software unveiled version 3.5 of its Archive Attender email management software. The latest version of Archive Attender includes a console with a graphical interface that features shortcuts to launch frequently used applications. Archive

Attender 3.5 also includes expanded stub management, archive limits, search and indexing utilities, and improvements to Web-based archive search functionality. As an administrator-driven solution, the Archive Attender helps enterprises address e-discovery, storage, information security, and compliance requirements that relate to regulations such as Sarbox.

■ Sybase iAnywhere Mobile Office

Sybase released the latest version of its iAnywhere Mobile Office, which gives users secure access to email and PIM application data on an iPhone. Sybase's iAnywhere Mobile Office now delivers iPhone users Lotus Domino and Microsoft Exchange email, calendar, tasks, and contacts with corporate directory lookup support. This version also lets network administrators take greater control over securing and managing iPhones within the enterprise, with features such as application password protection, on-device encryption for all enterprise data within the iAnywhere Mobile Office application, and on-demand remote data wipe.

■ Tandberg & BroadSoft BroadWorks Hosted Unified Communications Application Platform

Tandberg and BroadSoft released BroadSoft's BroadWorks Hosted UC (Unified Communications) application platform with Tandberg's portfolio of visual communications tools. BroadSoft's BroadWorks Hosted UC application platform includes Tandberg's E20 video IP phone, the 1700 MXP personal telepresence system, the Profile 6000 MXP, and the Tandberg Codian MSE 8000 Series multipoint control units. Through the combination of BroadWorks' advanced business features and Tandberg's video solutions, it is possible for service providers to deliver unique business solutions to customers in a SaaS model. The BroadSoft/Tandberg platform connects suppliers, customers, and colleagues in a face-to-face environment in order to reduce travel costs, increase enterprise productivity and collaboration, and improve customer satisfaction.

NETWORKING & VPN

■ Advanced Systems Concepts ActiveBatch v7

Advanced Systems Concepts released ActiveBatch v7, which provides enhancements for Windows, Unix, Linux, and OpenVMS systems. ActiveBatch v7 is designed for job scheduling and workload automation, and its SOA (service-oriented architecture) supports internal and external integration of Web services workflows. Version 7 includes an updated job library, increased application support, SQL reporting, QA environment improvements, and power management. The dynamic SOA lets enterprises incorporate reusable WSDLs and modify applications. New event triggers reduce idle time and expand system architecture. ActiveBatch v7 is available as an automatic upgrade or through licensing.

■ APCON EnterPoint

APCON announced EnterPoint, a network-monitoring solution that offers a single, centralized point of control for network-monitoring activities. EnterPoint's primary feature is a single screen where a user can create a monitoring session between any accessible source point and analysis devices. A second screen provides a dashboard view of all monitoring ses-



Product



Releases

Continued from Page 17

sions. EnterPoint provides faster problem resolutions, improved uptime, and reporting that gives data managers an automated method for tracking device usage.

■ **Astaro Command Center 2.0**

Astaro announced version 2.0 of its Command Center, which enables enterprises to centrally configure and maintain IPsec VPN tunnels. The Command Center consolidates the current status of multiple Astaro products in a single dashboard, allowing users to manage multiple Astaro Gateways, including Astaro Security Gateway, Astaro Web Gateway, and Astaro Mail Gateway.



■ **Cisco & BMC Software Unified Computing System**

Cisco and BMC Software unveiled the Unified Computing System, a joint effort that uses BMC's Business Service Management to offer a fast, automated provisioning and reconfiguration management tool for mission-critical applications. It integrates well with BMC Atrium Configuration Management Database and BMC's BladeLogic Service Automation suite and will come with these components when it becomes commercially available in the second quarter.



■ **Clerity UniKix 11.0**

Clerity announced the UniKix 11.0, a rehosting program that offers choices in deployment platforms, advanced security options, and numerous migration innovations that make it easier to move online and batch application environments to open systems. UniKix 11.0 features support for a wide array of platforms, including HP Itanium IA64 systems and IBM POWER systems; advanced security features that match mainframe security options; improved batch processing; and enhanced CICS (customer information control system) compatibility.

■ **Dell Management Console**

Dell released the Dell Management Console, software that unites systems management across IT settings with one console, thus reducing or eliminating manual systems management processes, the company states. The console will also save enterprises time, money, and resources, according to Dell. The console offers total infrastructure management abilities for clients, servers, and storage, ranging from hardware management to advanced functions such as asset and security management. Additionally, the console's framework is designed to work with existing environments and hardware from other vendors. Further, Dell claims that DMC service-enabled connectors will cover new technology implementations, as well as share data with existing management tools.

■ **Force10 ExaScale E-Series**

Force10 released a family of switches/routers, called the ExaScale E-Series, designed to deliver performance, resiliency, availability, and flexibility for



organizations looking to transition to virtualized data centers. The ExaScale E-Series is made specifically for environments such as virtualized data center and cloud computing networks with multiple switching or routing domains, high-performance computing networks, and high-density 10 Gigabit Ethernet switching and routing in Layer 2 and IP core aggregation networks. The series also supports IPv4, IPv6, and MPLS, as well as 40 and 100 Gigabit Ethernet.

■ **FrontRange Solutions SAM Suite**

FrontRange Solutions unveiled the SAM Suite, a set of software designed to help organizations realize cost savings and avoid unnecessary expenditures through improved software management. Launched by the company's new Infrastructure Management Group, the SAM Suite is composed of Asset Discovery, License Management, and Application Lifecycle Management. The suite is designed to help companies manage all of their software licenses so they can ensure their company is completely licensed and is not over-licensed. Additionally, SAM Suite automates many of the tasks around deployment and configuration management.

■ **GlassHouse Technologies Virtualization Optimization Service**

GlassHouse Technologies unveiled a Virtualization Optimization Service, which gives users visibility into how virtual infrastructures are being managed, including detailed reports, relevant metrics, and comprehensive analysis from vendor-independent professionals who have extensive knowledge and experience with virtualization technologies. With the Virtualization Optimization Service, customers will get monitoring 24/7, along with actionable recommendations with regard to optimizing the virtual environment for efficiency and cost savings. Additionally, the Virtualization Optimization Service provides performance reporting on VMs and hosts, as well as capacity planning.

■ **National Instruments NI WLAN Measurement Suite**

National Instruments released its WLAN testing suite called the NI WLAN Measurement Suite, which the company says is 10 times faster than standard box instruments. The suite combines National Instruments' Measurement Suite software for LabView and LabWindows/CVI development environments with NI 6.6GHz PXI Express RF hardware for enhanced speed and testing of IEEE 802.11a/b/g standards. The suite also offers engineers the ability to configure the same measurement hardware to test more than six other RF communications standards. Additionally, National Instruments says software-defined instrumentation allows engineers to use such CPU technologies as multicore processing and parallel programming to obtain fast measurement times through such software-defined PXI instrumentation as the PXI Express RF 6.6GHz instruments. The suite is priced at \$5,999.

■ **NCP End-To-End VPN Solution**

NCP released what it calls the industry's most comprehensive and easy-to-manage VPN product. The solution consists of NCP Secure Enterprise Management System, which provides administrators one point of administration

and full NAC management for an entire IPsec and SSL VPN network; NCP Secure Enterprise Server, an IPsec and SSL gateway hybrid that controls and monitors all VPN connections to/from a central data network; and IPsec NCP Secure Enterprise Client, a client and personal firewall and dialer. The release is aimed at letting end users connect with



SECURE COMMUNICATIONS ■

one click from any device to a network through a secure VPN tunnel whether on a WLAN, LAN, or cellular network. Each of the components integrates with all Cisco, Juniper, Check Point, SonicWall, and other vendor equipment. Additionally, full NAC support and management is provided.

■ **Opalis Software Opalis v6.0**

Opalis Software released Opalis v6.0, an automation platform with support for cloud computing. Opalis v6.0 delivers integration, orchestration, and automation for multivendor heterogeneous cloud computing environments. For example, to handle peak loads and prevent SLA violations, v6.0 automates public cloud provision, and it offers cloud cover to automate failover to public or private clouds. It is also possible to create and manage service-driven, flexible capacity automation with



Opalis v6.0. With Opalis' triggering capabilities, enterprises can subscribe to external events to trigger workflow processes that add, reduce, or fail over to cloud resources according to policies and SLAs.

■ **Precise 8.5**

Precise released Precise 8.5, which offers extensions for TPM (transaction performance management) and a migration path for Symantec APM customers in order to help them both maintain and develop their Symantec APM investments. Precise 8.5 extends TPM to feature the



latest developments in storage, and it manages transaction performance for composite applications. It also provides a management solution for DB2 environments. Version 8.5 features a centralized administration and automated deployment capabilities that aid in the management of large deployments.

■ **Sun Microsystems Sun Virtual Desktop Infrastructure Software 3**

Sun Microsystems unveiled its Sun Virtual Desktop Infrastructure Software 3, which aims to improve IT infrastructure utilization and desktop deployments manageability for enterprises. Sun VDI Software 3 features an open architecture, which lets users choose from a wide range of client devices and virtualization hosts. Sun VDI Software 3 features integration with Solaris ZFS and Open Storage, expanded VMware support, Active Directory support, and integrated support for Remote Desktop Protocol clients. Sun

VDI Software 3 starts at \$40 per user per year.

■ **Sun Open Cloud Platform**

Sun Microsystems unveiled its Sun Open Cloud Platform, which is an open cloud computing infrastructure consisting of Sun's Java, MySQL, OpenSolaris, and Open Storage technologies. Sun is leveraging its offerings in an attempt to offer both private and public clouds. Sun also announced its first public cloud service ideally suited to developers, students, and startups. Sun also released several Open APIs under a Creative Commons license, letting anyone access the technology as necessary.

PHYSICAL INFRASTRUCTURE

■ **Belkin OmniViewIP 5216K & 5232K**

Belkin released the OmniViewIP 5200K Series KVM switches, which include the 5216K and 5232K KVM over IP switches that let two users have simultaneous control over up to 16 or 32 servers. Both the OmniViewIP 5216K (\$2,099; part number F1DP216G) and the OmniViewIP 5232K (\$3,199; F1DP232G) offer virtual media technology for remote control over optical drives and USB devices, as well as BIOS-level and serial device access. Both also support Firefox and Internet Explorer and can quickly sync video.



■ **Computer Peripheral Systems N-AC1 TCP/IP Network Controlled AC Power Switch**

Computer Peripheral Systems announced the N-AC1 TCP/IP Network controlled power switch, which features automatically enabled ring reboot and an auto power cycle feature. The network and RS-232 ports provide functional redundancy via local PC. The ring reboot feature shares a line with fax and modem devices to cancel random rings and resets. Other features and controller options include local control via serial/telco port, ring count reset, manual push-button control, optional external remote controllers,



touch-tone controller, multiport controller, and cell controller.

■ **HP 14.4kVA Three-Phase Power Distribution Unit With Power Monitoring**

HP released a 14.4kVA three-phase PDU with power monitoring (\$1,499) that connects to rackmount devices with one input and 12 single-phase C19 outlets. By taking advantage of three-phase power while providing single-phase wattage to servers and networking devices, among others, the PDU achieves greater power efficiency and reduces the chances of overloads on any particular branch circuit. An optional management module can also be included for \$199.

SECURITY

■ **CoSoSys EndPoint Protector 2009**

CoSoSys announced the release of EndPoint Protector 2009, the latest version

Product  Releases

of its DLP (data loss prevention) and device control solution. EndPoint Protector 2009 uses file whitelisting, which lets companies decide which files can be copied to portable devices and which files are restricted. It also keeps a record of all attempted file transfers. EndPoint Protection comes with Lockdown Mode, designed to stop potential ongoing security breaches by stopping all data transfers and devices in use. Other features include a Web-based administration tool with a multilingual interface and support for a wide array of devices such as iPods, cameras, USB flash drives, and printers.

■ **Cyber-Ark Privileged Identity Management Suite 5.0**

Cyber-Ark Software has released Privileged Identity Management Suite v5.0 for securing, managing, and monitoring activities related to privileged administrative and application-identity accounts. The software consists of Enterprise Password Vault, Application Identity Manager, and the new Privileged Session Manager, which offers sensitive session monitoring and recording, secure remote access, and privileged single sign-on abilities. Cyber-Ark claims that with the suite, it's the only vendor now offering a full lifecycle product to secure, manage, log, and monitor all privileged accounts. Featuring one central infrastructure, the suite gives administrators enhanced control and Web-based recording abilities for auditing and compliance purposes. In addition to the suite, the individual applications can be purchased separately.

■ **Imperva SecureSphere DAM**

Imperva released the latest version of its SecureSphere database activity-monitoring solution, which adds analytics intelligence to automate forensics and audits. Using multidimensional data perspectives, SecureSphere connects SAP audit data trails with associated business transactions. The Audit Analytics feature



lets users find security-risk trends and identify compliance issues. The audit collection mechanism uses Imperva's network- and agent-based collection options for native log collection.

■ **Oracle Database Vault**

Oracle announced that its Database Vault is now integrated with the Oracle Enterprise Manager 10g Release 5. The integration helps enterprises increase DSA (database security administrator) productivity and reduce the continuous costs of IT compliance through greater automation. Oracle Database Vault provides advanced database access control to help enterprises address security and regulatory challenges, such as Sarbox, HIPAA, and PCI DSS. It enforces separation of duty and provides controls over who, when, where, and how applications and other databases can be accessed. By guarding against the disclosure or modification of sensitive information, Oracle Database Vault ensures that fraud, identity theft, financial irregularities, and financial penalties do not occur.

■ **Oracle Mantas Behavior Detection Platform**

Oracle announced its latest Oracle Mantas Behavior Detection Platform, which is a governance, risk, and compliance

framework designed for financial institutions. Mantas consists of a suite of applications that provide money laundering and fraud detection, as well as Know Your Customer, Broker Compliance, and Trading Compliance applications to help organizations adhere to compliance laws. Oracle Mantas features interactive dashboards, real-time cross-channel fraud and suspicious activity monitoring, and fraud prevention and interdiction capabilities.

■ **SAP AG BusinessObjectives Global Trade Services**

SAP AG has updated and improved its SAP BusinessObjectives Global Trade Services application, which is a branch of the SAP BusinessObjects GRC (governance, risk, and compliance) family. This new version works in tandem with the SAP BusinessObjects Risk Management program to automate regulatory compliance throughout several trade processes, such as logistics and order fulfillment, and aids customers in identifying and mitigating supply chain risk. The SAP BusinessObjects GRC family is designed to address compliance issues throughout lines of business, regions, and industries.

■ **Sendmail Sentrion Cloud Services**

Sendmail released Sendmail Sentrion Cloud Services to provide enterprise customers with cost-effective SaaS that filters inbound emails for spam and viruses before they are managed and regulated by on-premises messaging infrastructure software. With the inclusion of Sendmail Sentrion Cloud Services in Sendmail's lineup, customers can choose the Sentrion Message Processor appliances for inbound spam protection and their internal policy management layer, or they can architect a hybrid-hosted solution that will meet their own detailed requirements. Sendmail Sentrion Cloud Services help enterprises require fewer servers at the gateway to accept inbound mail and reduce data center footprint, network traffic, storage costs, and energy consumption.

■ **Symantec Brightmail Gateway 8.0**

Symantec launched the latest iteration of its enterprise messaging security platform, Symantec Brightmail Gateway 8.0. Symantec also announced its free online Brightmail IQ Services, which combines information from the Symantec Global Intelligence Network with comprehensive analysis by Symantec Security Response and the Brightmail operations team to keep IT personnel up-to-speed on the latest spammers, trends, and threats. Features of the platform include Adaptive Reputation Management to prioritize emails, the FastPass capability that lets mail from good senders bypass spam scans, Symantec Data Loss Prevention integration, and new support for virtual appliances.

SERVERS

■ **American Portwell Technology NAR-4060**

American Portwell Technology unveiled its NAR-4060, a compact 1U rackmount server with six PCI-E Gigabit Ethernet ports. It's also regulatory certification-ready, including FCC, CE, and UL. The NAR-4060 features an Intel 945GC chipset, which supports FSB 533/800MHz, Intel Celeron 400 series 35W processors, and dual-channel 4GB DDR2 memory up to 667MHz. Ideal for communication/security applications, such as Enterprise Internet Security Gateway, Firewall, and WAN optimization, the NAR-4060 combines high performance with the power efficiency of a low-power micro architecture. Its six PCI-E Gigabit

Ethernet ports meet the mainstream demand, and it offers the PCI-E lanes to connect directly to the Ethernet controllers and provides peak bandwidth of 2GBps per direction.

■ **HP Integrity NonStop NS2000 Servers**

HP announced a new family of servers, the Integrity NonStop NS2000, ideal for small and mid-sized organizations in health care, financial services, and telecommunications industries. The new rack-mounted NS2000 servers feature Intel Itanium multicore processors, 24/7



data availability and real-time access to critical business applications, double the performance capacity of previous NonStop-class systems, and a target migration platform for current HP Integrity NonStop S-series customers.

STORAGE

■ **ATTO Technology ExpressSAS H608, H680, H644, H60F, H6F0**

ATTO Technology unveiled five 6Gbps SAS/SATA x8 PCI-E 2.0 host adapters, the Express-SAS H608, H680, H644, H60F, and H6F0. They're compatible with earlier versions of SAS and SATA, as well as Linux, Mac, VMware, and Windows environments. The ExpressSAS H608 features eight internal ports; the H680, eight external connections; and the H644, four internal and four external ports. The Express-SAS H60F (internal ports) and H6F0 (external ports) both feature dual independent controllers and 16 lanes of 600MBps throughput.

■ **Dell EqualLogic PS6000**

Dell released solid-state storage arrays that offer improvements over disk-based units. The Dell EqualLogic PS6000 series—the first EqualLogic line to include SSDs—comprises the PS6000E, PS6500E, PS6000X, PS-6000XV, and PS6000S. The series' support for Microsoft Hyper-V Smart Copy snapshots makes it easy to quickly restore virtual machines to working states. Moreover, the PS6000 series is capable of supporting more than 500TB of storage per PS series group.

■ **EMC Enterprise Flash Drives**

EMC released a second generation of enterprise flash drives for inclusion in the company's line of Symmetrix DMX-4 storage systems. The drives come in 200GB and 400GB capacities and are now out in DMX-4 systems. The drives will be available in EMC CLARiiON midrange storage systems and EMC Clerterra unified storage systems later this year. The enterprise flash drives are a cost-effective option for high-level Tier 0 applications, as one fully utilized flash drive can deliver the same performance as many intentionally underutilized mechanical drives. As a result, companies can reduce the number of drives needed, thus realizing power-consumption-per-transition reductions of up to 98%.

■ **Iomega StorCenter ix2 NAS Appliance**

Iomega, an EMC company, announced new features for its StorCenter ix2 NAS appliance, including remote access, peer-to-peer file sharing, and other ease-of-use enhancements. The technologies involved include torrent download for faster file sharing, folder quotas so users can set maximum capacity for shared storage folders, Jumbo Frame support to increase data flow for larger files during heavy network traffic, and AFP (Apple File Protocol) to simplify file-sharing for Mac users. Existing features include up to 2TB of capacity, support for multiple devices, support for Bluetooth, and a Gigabit Ethernet connection.

■ **Mimosa Systems NearPoint**

Mimosa Systems announced that its NearPoint email- and file-archiving product now features complete content archiving, data protection, and e-discovery support for Microsoft Office SharePoint Server 2007. Features include production storage cost management with complete capture of all Office SharePoint Server 2007 content, including documents, lists, sites and site collections, site configuration, and custom metadata; improvement of recovery service levels with compre-



hensive data protection for Office SharePoint Server 2007; decreased archive storage requirements; expedited e-discovery processes; and a seamless end-user experience with optional placeholders within Office SharePoint Server 2007 to access previous versions of archived content.

■ **NovaStor Support For Microsoft Server 2008, SQL 2008 & Exchange 2007**

NovaStor announced support for Microsoft Server 2008, SQL 2008, and Exchange 2007 on NovaBACKUP 10 for SME data protection. Overall, this enhancement protects database information such as emails, CRM, and accounting information. Updates are free and available through a singular application. The update is available free at NovaStor's download/software update site.

■ **Remote Backup Systems Mercury Backup**

Remote Backup Systems launched its advanced OEM online backup platform, Mercury Backup. This white-labeled online backup software works similarly to online backup services such as Mozy and Carbonite. Mercury Backup supports both Windows and Mac agents and multiple languages and localizations. The offering works with all versions of Mac OS X and Windows 2000 and newer. A Linux version is coming soon. The offering uses Oracle 11g on the back end running on Windows 2003 Servers. Mercury Backup also features a powerful but easy-to-use Web interface.

■ **StoneFly Voyager**

StoneFly announced the Voyager line of virtualized IP SAN appliances as part of the StoneFly Storage Concentrator lineup. The Voyager comes with either six or 10 1Gbps Ethernet iSCSI ports with an option of four 10Gbps Ethernet connections to make up to 950MBps performance possible. The Voyager supports any mix of SSD, SATA, and SAS drives and can be scaled up to 128 drives through expansion arrays. Pricing starts at \$25,000.

Group Studies Mac Usage Within Enterprises

Results of the Enterprise Desktop Alliance Mac/Windows Integration Survey reveal that most companies that are already running on Macs plan to maintain the current number of Macs and invest in more.

More than 74% of the 314 IT administrator respondents indicate they plan to increase the number of Macs in their organizations, 2% are not planning to increase their Mac investment, and 22% will not make any changes. About 56% of the respondents say they deploy 100 or more Macs within their enterprise. Respondents are concerned about how to maintain productivity even as more Macs are incorporated into the infrastructures.

When it comes to managing Macs, 91% of those surveyed say that integration of Macs and PCs is significant to their company's platform management. The top management-related issues are Active Directory integration; client management, including inventory, patches, and compliance; and file sharing across operating systems.

The Electronic Desktop Alliance recommends companies focus on the following initiatives to maintain efficiency: evaluate whether hardware and software investments in existing Microsoft-based infrastructure can also support the Mac, examine the points of intersection between PCs and Macs to identify gaps, and determine whether the existing infrastructure will meet the standards for regulatory compliance across all platforms.

Mac-Only Users

The transition to Mac environments is largely being propelled by workers who identify themselves as Mac-only users and say their personal productivity increases on a Mac when compared to alternative platforms.

Janet Lafleur, director of Atempo's field marketing in North America, says increasing numbers of employees are expressing a preference for the Mac now that hot consumer products such as the iPhone are available from Apple.



"Not only are employees who feel more comfortable on their choice of computer more productive, those who feel that their wishes are respected by management are often more loyal," says Lafleur. "If an organization can keep the administration of those Macs as simple as it would be for other platforms, then the company will realize a net gain by offering their employees a choice."

Enterprises that intend to integrate both PC and Mac platforms "should do everything possible to avoid creating parallel management infrastructures: one for PCs and one for Macs," Lafleur says. "Dual infrastructures can radically increase their overhead by duplicating management applications and by duplicating servers of each OS to support the management applications."

"If they have a Windows-based infrastructure, they should continue to manage with it, because Windows can manage the Mac better than the Mac can manage PCs," Lafleur says.

by Joanna Safford

Featured Product

High-Speed Storage

iStarUSA Leverages PCI Express For Ultra-Fast RAID Backups

by Bruce Gain

• • •

WHEN TRYING TO PREDICT where a server's next performance bottleneck might be, the most attention is often paid to the CPU and memory components. The tendency to do that is understandable because computing power is directly tied to their performance. For example, a server can be packed with the maximum amount of RAM, but an out-



dated processor can make the extra memory obsolete. Lack of memory, on the other hand, can hobble the performance of an ultra-fast processor. But although the focus for server performance is often on CPU and memory, other components, such as storage, can limit performance, as well.

Sometimes overlooked, storage connections with low data transfer speeds can slow applications down, especially for data-intensive tasks. Technologies that can speed data transfer to RAID array storage can be a godsend, especially when large increments of data must be transferred rapidly for backup.

"Basically, large data-driven apps need fast storage," says John Matzek, co-CEO of Logic IT Consulting (www.logicitc.com). "So, database servers that are doing a lot of transactions, for example, or email servers that have a large database of email that gets heavily used [require fast storage]."

But after you have implemented a high-end SATA, eSATA, or SCSI storage system, storage bottlenecks can still remain a concern, especially for data-intensive applications. You may have upgraded certain servers with the highest-end CPUs and memory components available on the market, in conjunction with a fast storage system, but backup speeds could still be lacking for your needs. This is where the mAGE316U40-PCIE-EXP rackmount RAID chassis system from iStarUSA comes into play.

The Speed Niche

For very fast storage speeds, iStarUSA (www.istarusa.com) has done away with

SATA, eSATA, SCSI, and other storage standards and has built its external storage application around the very fast PCI Express protocol. PCI-E has been available for a few years but is better known in the video card space for high-end graphics applications from manufacturers such as AMD and Nvidia than it is in the storage space. But in the case of iStarUSA, the protocol's fast data transfer rates have been

used for high-end storage applications for which speed is at a premium.

"We are the only ones among our competitors to offer PCI Express for storage," says WJ Dai, a senior technician for iStarUSA.

The mAGE316U40-PCIE-EXP, designed with a built-in PCI-E slot for 16 ports, has a maximum 20Gbps bus speed for external storage that offers eight times the data transfer rate speeds compared to eSATA connections, Dai says. The data transfer rate comes in especially handy for computationally intensive applications for which speed is crucial, Dai says.

"Customers really like the speed," Dai says. "Up until now, we haven't seen anybody else offer those speeds."

Feature Checklist

An essential feature that an external storage device should offer is the ability to monitor performance and the status of the disks inside the chassis. You may have a comprehensive single-console monitoring

iStarUSA™

system in place for your entire network, for example, but that does not mean that you want to do away with performing spot checks of your storage components when you are onsite in the data center, either. To help you keep an eye on what is going on inside iStar's PCI Express external storage system, LEDs indicate temperature, power levels, individual disk failures, fan speeds, and other variables of the hard drives inside the chassis. If the fans slow down below a certain number of rotations per minute or if hard drive temperatures rise above 55 degrees Celsius, for example, an alarm goes off.

A power failure within a storage component is one of the many potential nightmares admins must worry about when running a data center that hosts data-intensive storage applications, especially when and if an enterprise's business model relies on it. If the power supply unit were to suddenly go off inside an external storage chassis, what then? As a remedy, iStarUSA offers a backup power solution as an option with its mAGE316U40-PCIE-EXP.

contact

iStarUSA mAGE316U40-PCIE-EXP
(626) 303-8885
www.istarusa.com

Description: The mAGE316U40-PCIE-EXP rackmount RAID chassis system was designed to offer faster data transfer rates compared to competing external storage systems.

Interesting Fact: The system uses the PCI Express protocol, which is often associated with high-end PC and workstation graphics applications instead of storage.


Robustness and cooling capacities are also essential features to keep in mind when selecting an external storage system. You may have decided to invest in upgrading your storage applications to offer ultra-fast speeds, but the extra performance will not be worth much if you must sacrifice reliability. To appease these concerns, iStarUSA says its PCI Express product's cooling system was developed to keep hard drive temperatures inside the chassis below threshold levels to help prevent disk failures with the help of an optimized fan and airflow design. iStarUSA says the cooling design is based on two 7.5cm tool-less hot-swap blower fans for airflow, which the company claims are easy to maintain. iStarUSA says its mAGE316U40-PCIE-EXP also owes its robustness to how its chassis is built with a heavy-duty cold-rolled steel metal, which is manufactured to the EIA-RS310D industry standard and is RoHS-compliant.

Because the RAID host bus adapter is installed for each storage chassis, it is possible to maintain the data transfer performance so it will not drop when your storage system capacity is increased and new arrays are added for what iStarUSA claims is "virtually unlimited storage space expansion with data transfer performance."

"You only need to pay for the amount of storage that you need," Dai says. "[You can] expand as many storage subsystems [that you require] to meet your needs in a cost-effective way."

The Apps

iStar's PCI Express product's high-speed capacity is especially geared for applications that use large increments of data that need to be transferred at a fast rate to external RAID disk arrays. "The video-editing people really like the speed," Dai says. "They really need the high data flow."

In addition to video editing, other applications that require fast data transfer speeds for which the mAGE316U40-PCIE-EXP is adapted include multimedia on demand, desktop publishing, digital surveillance video recording systems, digital audio recording, and medical imaging storage. The system also offers a good fit for email, Web, or file server storage systems, iStarUSA says. 

Featured Product

News

Green-Savvy Power Distribution

A-Neutronics Product Displays Amps, Volts, Watts & More



by Robyn Weisman

IT PROFESSIONALS know they need power equipment that, at the very least, can handle the power today’s servers and other network appliances require, take up minimal space, and offer easy access to various devices.

1U rack power strips are becoming the standard to satisfy most small to midsized enterprises’ needs, says Blane Warrene, director of technology solutions at business services provider CBIZ (www.cbiz.com). “They are more common now than ever before. For years [power strips] have been major space hogs, and the market has responded well to IT manager needs,” Warrene says.

Frisco, Texas-based A-Neutronics (www.a-neutronics.com) originally bought other manufacturers’ power strips, typically overstock or discontinued items, to resell. Now, the company has begun engineering its own power devices and for several years has exclusively sold its manufactured units, including its unique 17-Outlet 19” Rack Mount with LCD Display (15AMP) model, also known as the MS1917-LCD.

Being Green, Saving Green

The MS1917-LCD provides users with green-savvy functionality, most notably its built-in power meter that shows amps, volts, VA, watts, power factor, frequency, kilowatts, and kW per hour on its LCD screen. In addition, the LCD volt meter tells users how much power the MS1917-LCD is drawing for already-connected equipment before they plug in additional devices.

James Jobin, president of A-Neutronics, says the MS1917-LCD is the only power

“Customers in colocation facilities pay somebody for a certain amount of power and for rack space. It’s important for those clients to know how much power they’re actually consuming, because if they get to a certain threshold, they can start tripping breakers, servers go off, and—boom—they start losing revenue,” Jobin says.

Warrene says that the greening of the data center and server rooms has influenced the design and features of today’s PDUs. But Warrene points out that this greening of the data center is not just a matter of being environmentally sensitive.

“It is also looking at the bottom line,” Warrene says. “As vendors provide green applications for hardware tools, IT managers will use them if it aids them in cutting space, minimizing heat [leading to] lower AC control costs, and lessening power consumption.”

Dummy-Proofed

In addition to the built-in meters and LCD screens, the MS1917-LCD offers a number of other useful features. It comes with 17 UL-approved outlets, the maximum that can fit in a 1U rackspace unit. The LCD screen is backlit, so it remains illuminated even in a darkened server environment. The power switch also is illuminated and has a safety cover on it.

Moreover, the MS1917-LCD is dummy-proofed, Jobin says. “There are no settings for the end user to change or mess with,” Jobin says. “You just get up and cycle through different readings on the front panel.”

Warrene concurs, adding, “Not only does the LCD announce power consumption so IT staff can determine if there is capacity to add to the device prior to plugging in, its

contact

A-Neutronics 17-Outlet 19” Rack Mount with LCD Display (15AMP) [MS1917-LCD]
(877) 263-8876
www.a-neutronics.com

Description: A UL-approved 1U AC PDU that provides users with 10 rear-facing outlets and seven front-facing outlets. Comes with a backlit LCD screen that indicates the volts, kilowatts, amps, and other values being used by connected devices.

Interesting Fact: According to A-Neutronics President James Jobin, A-Neutronics was originally named Neutronics when the company was founded more than 30 years ago. “Then somebody said, ‘Look at the Yellow Pages listing.’ However many A’s you put in front of your name makes it show up first, so we added the A so that we would be listed first in most listings,” Jobin says.



“The MS1917-LCD brings some of the features of higher-end units used in large data centers and makes it an accessible hardware alternative at a reasonable price for the SME,” says Warrene. “If [SMEs] are considering green initiatives, this power distribution unit is an economical way to get started with server racks.”

Fact Sheet

Model No.	MS1917-LCD
Overall Length	19 inches
Number Of Receptacles	17 (seven front, 10 rear)
Cord Length	15 feet
Switch	Lighted with locking cover
Display	LCD with backlight
Mounting Type	Flange (rack-mounting screws not provided)
Approval	UL-Approved
Maximum Rating	60Hz, 15A, 120V
Housing	Steel; 1.75 x 17.5 x 4.5 inches
Unit Color	Black
Type Of Receptacle	NEMA 5-15R (15A 125V) Black Outlet

IT Adoption By Health Care

Of Special Interest To:
Health ☒
Education ☐
Government ☐
Data Centers ☐

The move to a nationwide HIS (health information system) could revolutionize the healthcare industry and affect even individual Americans. The economic stimulus package that was signed into law by President Obama will provide about \$20 billion in federal outlays for health information technology to encourage health institutions to adopt electronic medical records over the next six years. So what’s the catch?

The CBO (Congressional Budget Office) reported that both public and private entities handling health information would be required to comply with new usage, disclosure, and privacy regulations, which could potentially



cost the private sector more than \$139 million in 2009 alone. At an American Enterprise Institute forum in Washington last month, healthcare providers and buyers expressed other challenges facing providers as they attempt to migrate toward a nationwide HIS. Joseph Swedish, president and CEO of the nonprofit Trinity Health, believes the stimulus is a step in the right direction but, like many others in attendance, has reservations about sharing data with other providers. Benjamin Sasse, an assistant professor at the University of Texas at Austin, blames the economic structure of the health industry as the biggest barrier to data sharing and health IT adoption. Other obstacles are posed by the numerous conflicting vendor-, state-, and locality-imposed standards for health records.

Weighing Health Information Systems

Edna Boone, senior director of healthcare information systems at HIMSS (Healthcare Information and Management Systems Society), sees HIS implementations as a three-legged stool supported by People (those using, collecting, and being impacted by HIS), Process (current workflows and necessary alterations), and Technology (the specific institution’s data needs and scalability concerns). “If you focus too much time and effort on one of those legs and neglect the others, deployment becomes a challenge.” Boone also warns against rushing into implementing HIS: “The vendor selection process, with appropriate due diligence, should take six months to a year.” Swedish agrees, citing Trinity’s move to HIS in 2000, which took years to implement and necessitated changes in both culture and staff processes.

Despite these drawbacks, the CBO reports that electronic medical record keeping could pave the way for savings of up to \$12.5 billion in Medicare, Medicaid, and on- and off-budget Federal Employees Health Benefits spending over a decade. Healthcare recipients could see some savings, as well, in the form of lower health insurance premiums for private payers and lower rates for private employers who cover their employees’ compensation.

by Andrew Leibman



strip in the marketplace that provides users with eight different values related to AC power. “If you are going green, you can measure your current power consumption, and as you start to add more energy-efficient devices, you can take accurate readings and see what that savings is,” Jobin says.

The MS1917-LCD has been on the market for more than six years, Jobin says. Although at that time green technology was not the catchphrase it is today, enterprises were still monitoring their power consumption. Customers leasing out space in colocation facilities were early, avid purchasers of the MS1917-LCD.

latching safety eliminates the risk of accidental power cycles, and the plugs are also easily accessible on the front and back of the device for limiting the time an IT staffer needs [her] hands in the server racks,” Warrene says.

Worth The Extra Cost

The list price for the MS1917-LCD is \$199, although it is currently on sale for \$149. Warrene acknowledges that the unit’s price is slightly higher than the general average for 1U power strips. However, Warrene says the additional cost is warranted because the MS1917-LCD’s feature set enables it to outperform most of its peers.

CASE STUDY

Easily Manage Your Virtual Resources

Akorri BalancePoint Provides Solid View

by Julie Sartain

RAPID GROWTH, CONSOLIDATION, and continual changes define the current state of affairs in most of today’s data centers. And virtualization seems to be the best answer for this widespread trend that encompasses all levels of the technology stack. Traditional management software tools often are inadequate and inefficient for these virtual systems.

These conventional tools were designed to manage physical resources, not virtualized servers and storage units. Virtual resources require a product that can identify the performance and physical storage capacity needs of every application running plus diagnose and address operational problems and manage performance and resource usage as the virtual environments scale up.

One such product is BalancePoint by Akorri (www.akorri.com), a program that offers a holistic, cross-IT silo view of the data center. One such company using this product is Service Corp. International (www.sci-corp.com), one of America’s largest funeral, cremation, and cemetery

service providers, headquartered in Houston.

The Challenges

Kevin D. Brown, IT manager at SCI, says the challenges of managing virtual environments are numerous. “For example, it takes a lot of experience to manually manage 50TB of disk space that’s assigned to half a dozen or more virtual servers. You must calculate the performance achieved with the virtual disk for an SQL server and

There’s always a problem with others taking responsibility for an application’s and/or system’s performance. The two quick responses when individuals are asked about poor performance of the resources are: “It’s the network” or, “My stuff is working fine.”

Brown says, “Having a product that can help and work in conjunction with the other systems is the 900-pound gorilla that can destroy these misdirected claims. BalancePoint is not the only tool to have in this toolbox, but it is the tool you reach for first. We needed a central tool that all the different groups could easily use [and] that would also provide them with the data they are accustomed to having, as well as over-



how that is affected by the four other servers on the same disk group. If you overlook one element, you miss the mark.”

Another challenge is identifying and addressing performance issues, Brown says.

lay with the current data that’s unique to their discipline.”

According to Brown, once the finger-pointing stops, companies can move on to improving quality of service from perfor-

mance, availability, and stewardship angles. Then, in the process of tuning, IT staff can get an idea of what actual users like to see, such as application responsiveness and stability. With BalancePoint, customers can also get the data they need to analyze their next move, and it handles the growth and change. “Once it has the historical data, it’s the kind of tool that you can use to get the right answers for these questions anytime you need them,” says Brown.

In fact, Brown says the biggest problem SCI was trying to solve with BalancePoint was “the same as everyone else: keeping everybody happy and still having a life.”

All-In-One Device

Brown says he doesn’t recall which other products SCI considered. “I just know that it seemed like we always came back to this same product, BalancePoint, because it was an all-in-one type of device and worked well with the other monitoring systems. When analyzing systems like ours, the products with the most boxes checked make the short list. The problem is that not just the one team is going to use the product. Trying to get three or four different groups to agree on one thing does not happen very often. And, in this case, there was a higher-than-normal acceptance of this product, and that weighed in on the final decision.”

Brown adds that the other main issue for SCI’s decision to go with BalancePoint was that there was no other single product that could do everything like BalancePoint. “You don’t need 15 different monitors to get 15 pieces of data,” he adds. If the plan with monitoring is to get as much data as often as possible, then reaching for that real-time mark without affecting system performance means you need to have as few products as possible retrieving that data, Brown says.

CASE STUDY

Virtualized Utility Storage

Attenda Makes The Move To Shared Storage With 3PAR

by Robyn Weisman

ATTENDA PROVIDES MANAGED hosting services, SaaS, and other cloud services to a slew of UK-based companies, including such brand names as bmi, Britain’s second largest airline; NHS (UK National Health Service); Regis; Microsoft; and Access Glasgow, among others.

“We not only host their infrastructures, but more importantly we run critical applications for them, supplying SLAs around [such applications as] SAP and [Microsoft] Dynamics and Exchange,” says Simon Hansford, vice president of products and marketing at Attenda (www.attenda.com), who adds that Attenda executes about \$40 billion worth of transactions through its data centers. And after researching some of the biggest vendors in the enterprise storage space, Attenda uses 3PAR’s InServ Utility Storage (www.3par.com) to handle its extensive storage requirements.

Moving Off The Islands

After Attenda was founded in 2000, the company became one of the early adopters of shared infrastructure. According to Hansford, this originally meant big shared networks using shared devices, but storage was an exception. For its clients, Attenda deployed separate islands of storage, typically

dedicated HP-EVA (Enterprise Virtual Array) or HP-MSA (Modular Smart Array) for each of its clients because security and provisioning risks were too high to have a shared storage pool.

“It provided good security for any individual client but caused us a whole load of issues, [such as] availability, [dealing with] different vendors, wasted [and] unused storage that cumulatively was very high,”



says Hansford. Attenda decided it was time to seek out a shared storage provider.

Hansford says Attenda checked both big-name vendors and entrance players. Attenda decided on using 3PAR’s InServ Utility Storage because of the quality of its product and 3PAR’s focus on the managed services arena.

“As a UK business, we’re very reassured that our U.S. competitors that don’t compete with us in the UK but are in the same business . . . were using 3PAR,” he says. “3PAR offers some very strong feature sets within its

product around thin provisioning, security, [and] referenceability, typically at the high end of an enterprise where availability, performance, security, are absolutely key.”

Availability A Crucial Feature

Hansford says that high availability was a crucial criterion when Attenda was choosing a storage vendor. “If we’re having shared platforms where we’re putting multiple clients on there and the applications are so critical, it is almost impossible, if not impossible, to schedule downtime amongst clients. It can’t be done,” Hansford says.

“Maybe with individual clients, but collectively for them all to agree at the same date and time is impossible.”

In addition, Attenda needed the ability to perform software and capacity upgrades, dynamically allocate storage, and easily provision within this shared storage environment. Hansford says that although several competing vendors claimed their products could handle all these tasks, the reality was quite a bit different.

“There were multiple examples of, ‘Well, under this condition you would

need to reboot, or under this condition you would have to schedule downtime,”” says Hansford. Only 3PAR offered the high availability Attenda needed without caveats.

Multidimensional Virtualization Capabilities

3PAR’s virtualization capabilities were also a deciding factor in Attenda’s choice because one of Attenda’s key selling points is its ability to offer virtualization platforms in totality, as Hansford puts it. “We have a utility computing platform where clients are able to buy three components: how much computer power you want, which we sell in units of 2GHz computing power; how much network capacity you want; and how much storage you want. You literally buy those three items on a utility platform,” he says.

Attenda delivers its virtualized computing power using VMware and is VMware’s hosting partner for Europe and the Middle East. According to Hansford, Attenda exited 2007 (its first year of adoption) with about 100 VMware virtual machines under its management, and by the end of 2008, Attenda was managing more than 600 VMs.

“Our sales forecast for our third year would have us exit 2009 with over 1,200 VMs under management,” says Hansford. “Every one of those is connected back to the 3PAR storage, so the fact that VMware’s integration works with 3PAR’s initiatives was very important to us,” he says.

Solid Support

3PAR’s per-terabyte cost was comparable to the other potential vendors Attenda considered. More importantly, 3PAR provided

SCI ran into some unique issues with implementation, Brown says. For example, the older systems had to be upgraded and were not the easiest to fix. And, he says, taking a disk array down for three to four hours to upgrade firmware is really a challenge and has its own risk. As far as limitations, Brown says that lower-end systems cannot be monitored from the hardware side, limiting the data that can be collected. But, he says, this is not unique to BalancePoint: All new products have these issues.

“The only training was the knowledge transfer during the evaluation phase and final implementation, and that worked pretty well,” says Brown. “There were a few bumps over the next few months that might have been better served with some more ‘formal’ training, but the support from Akorri was and has been great.” According to Brown, the biggest issue SCI had was getting the system stabilized in the company’s environment. “There were a lot of things to think about and a lot to configure so that we could see all the data.”

No Real Surprises

“There were no real surprises with this product,” says Brown. “It’s a very straightforward approach, and it functioned just as we planned it to. We identified and solved so many problems with BalancePoint. The one feature that really gives me comfort with this purchase is the visibility into the virtual environment.”

According to Brown, when the disk array controllers are layered, plus the functions of the operating systems for the host server, plus the operating system for the VM and those disk functions, it takes a lot of data and patience to find the real problems and the tasks of what to do. BalancePoint takes the available data and shows an analysis

regarding the best place to move and what actions to take.

“We are implementing some major changes in our infrastructure to help reduce the operating cost,” says Brown. SCI is starting up an alternate data center to reduce the disaster recovery cost and provide some fault tolerance for the main data center, which means upgrading some of the older equipment that cannot handle the growth anymore. All of this requires a lot of time, calculating what to do and how to do it. Accurate data from a reliable source is key in getting these things right, he adds.

“And once you get it right, you have to keep it right,” concludes Brown. “We have a major application upgrade this year, and BalancePoint should prove valuable in the performance-tuning phase, as well as post-implementation.”

Akorri BalancePoint

Offers a holistic, cross-IT silo view of the data center, helping IT managers understand performance issues and optimize the utilization of storage and server resources.

“There were no real surprises with this product. . . . It’s a very straightforward approach, and it functioned just as we planned it to. We identified and solved so many problems with BalancePoint. The one feature that really gives me comfort with this purchase is the visibility into the virtual environment,” says Kevin D. Brown, IT manager at Service Corp. International.

(978) 431-1200
www.akorri.com

strong vendor support. “We tend to be pretty leading-edge in terms of our adoptions of Microsoft and VMware technologies, so we need to make sure they are going to support drivers and applications from these vendors,” says Hansford.

Hansford says 3PAR’s UK technical support squad is very experienced. Although it wasn’t relevant in Attenda’s purchasing decision, Hansford says several of 3PAR’s staff had worked at other vendors Attenda has used. For his part, Hansford thinks the term partnership is overused when describing relationships with vendors. At the same time, Hansford calls 3PAR an excellent vendor and the closest thing to a partner in the way 3PAR provides assistance in capacity planning, growth planning, product development, and assurance that Attenda’s network is properly aligned with VMware and Microsoft.

In addition, 3PAR is responsive to Attenda’s requests for improvements in its storage offerings. For example, 3PAR has already committed around levels of quality of service and providing different types of storage given that different clients of Attenda’s will have different types of data. According to Hansford, Attenda looks forward to 3PAR getting into the NAS marketplace.

The Only Storage Attenda Uses

For the past 15 months or so, 3PAR is the only storage Attenda has deployed in its data centers. “Any new client has gone immediately onto that storage. Many other clients who have upgraded, renewed their contract with us, [or] refreshed their infrastructure have all been migrated over to 3PAR storage, and, generically, it’s gone extremely well,” says Hansford.

In the past eight months alone, Attenda’s storage has tripled in size. Yet because 3PAR enables Attenda to allocate additional storage dynamically, Attenda is no longer spending unneeded time predicting and managing individual customers’ storage capacity or administering hundreds of individual islands of storage. 3PAR’s management capabilities enable Attenda to manage storage on a global basis. Hansford says the way that 3PAR lessens Attenda’s need for capacity management is a “joy.”

3PAR InServ Utility Storage

Dynamic, highly virtualized utility storage that enables users to construct flexible and resilient infrastructure that does not require dedicated storage islands for different organizations and projects. Its thin provisioning technology enables users to purchase only the precise storage needed, which minimizes the purchase of underutilized storage drives.

“As a UK business, we’re very reassured that our U.S. competitors that don’t compete with us in the UK but are in the same business . . . were using 3PAR. 3PAR offers some very strong feature sets within its product around thin provisioning, security, [and] reference-ability, typically at the high end of an enterprise where availability, performance, security, are absolutely key,” says Simon Hansford, vice president of products and marketing at managed services provider Attenda.

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24-Outlet 48" Rack Mount Power Strip Power Bar



FPI4824 power strip offers 15 amp, 120V multi-outlet AC power distribution in a convenient 48 inch mountable housing. Offers horizontal or vertical power distribution in rack mount, raceway and workbench applications. Includes 24 NEMA 5-15R output receptacles with 1.75 inch center-to-center spacing. Sturdy all-metal extruded aluminum housing stands up to demanding network, laboratory or factory environments. Includes 15-ft. AC power cord, 15 amp circuit breaker. Lifetime warranty.

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MS1917-LCD AC power distribution unit offers 15 amp, 120 volt capacity in a single rack mount cabinet. The built in power meter has eight (8) different displays showing Volt, Amps, Watt, VA, Frequency, Power Factor, Kilowatts, and KW per hour. Fixed mounting flanges offer a solid rack mount installation. Uses only 1 rack space (1U) when installed in any 19 inch rack Attractive all-steel housing with 10 rear-facing outlets and 7 front-facing outlets measures only 4.5 inches in depth. Unfiltered electrical pass-through and lighted switch with latching safety cover prevents risk of accidental turn-off. Ideal for distributing alternate waveform UPS or generator power in rack enclosures, network closets and more. Includes 15-ft. AC power cord, 15 amp circuit breaker. 3-year limited warranty. There is a lighted LCD Volt Meter to let technicians know exactly how much “power” is being drawn before they plug in additional equipment.

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FEATURE PACKAGE

Defending The Data Center Budget

What tactics, strategies, and tips can you use to defend your data center budget from drastic changes? We talked with experts to find out.

Secure Your Security Spending | 24

■ As more enterprises go into economic downturn survival mode, IT is under growing pressure to cut costs, and the security budget is not immune.

The Case For New Equipment | 25

■ Your business, like most, is having to do more with less. So how do you justify spending money on new equipment?

In Defense Of Storage | 26

■ As a data center/IT manager, you likely find yourself needing to explain to people that are possibly not themselves storage experts why you need what you need. Here are some things to keep in mind as you plan your defense.

Protecting Your People | 27

■ These days, companies are reacting to tough market conditions by slashing costs wherever they can. Because personnel spending represents a large portion of investments in IT departments, staffing especially comes under fire in hard times.

Secure Your Security Spending

Keep Vital Security Expenses From Hitting The Budgetary Chopping Block

by Carmi Levy
• • •

AS MORE ENTERPRISES GO into economic downturn survival mode, IT is under growing pressure to cut costs, and the security budget is not immune. But unlike money-saving initiatives such as delaying equipment purchases or reducing headcount, security cuts can land an organization on the front page for all the wrong reasons.

“Slashing security budgets reveals a profound ignorance of the world we live in,” says John Kindervag, senior analyst of security and risk management with Forrester Research. “Cybercrime will not stop because budgets are tight in enterprise organizations. If executives really understood cybercrime and the risks posed by these highly skilled attackers, they would increase their security budget in times like this in anticipation that cybercrime may become more attractive in a down economy.”

It’s imperative, then, for IT to undertake the unpleasant task of defending its security budget from potentially dangerous cuts.

Finding ROI

Jay Roxe, director of product marketing at Novell (www.novell.com), agrees that tough times are increasing the likelihood of internal and external threats and suggests using identity management as a possible solution with ROI potential.

“Identity management is an area where IT security pros can demonstrate return on

investment while also addressing major security concerns,” says Roxe, who adds that layoffs can be especially problematic. “Having automatic systems in place that can immediately deactivate an employee’s access to valuable information on a company’s systems is important.”

Roxe also recommends consolidating duplicate, often obsolete systems to save

either cut budget or move it to a more valuable project.”

Security As Insurance

It may help to illustrate security spending as a form of organizational insurance when you’re pleading your case.

“Management needs to recognize that security funding is no different than many other forms of insurance and disaster preparedness,” says Michael Maloof, CTO of TriGeo Network Security (www.trigeo.com), who adds that the answer doesn’t always involve buying all-new solutions. “In order to save money without jeopardizing security, companies need to maximize the value of the systems they have [by] keeping the products current and looking for ways to do more with what [they] already own.”

To accomplish this, he recommends implementing log aggregation and event analysis tools. “All of the network devices, operating systems, and applications generate events that reveal what’s happening on the network,” says Maloof. “Getting this data centralized in a form that can be analyzed and turned into actionable information is a great way to stay on top of what’s happening with a minimum of additional effort and expense.”

Share The Burden

Choosing to finance outsourced security-related functions also holds promise for organizations aiming to cut costs without cutting coverage.

“Hosted solutions shift the burden of expense from facilities to operations, where costs can be budgeted based upon the level of service needed and not the physical devices put in place,” says Michael Van Bruinisse, president and chief operating officer of Purewire (www.purewire.com).



operational costs and streamline management processes. He also advises assessing employee role profiles and ensuring that no one individual has too much access. He cites an example of a single employee who can issue purchase orders and approve payments as a potential fraud risk. In these cases, compliance management systems can automatically enforce IT policies that manual processes would have difficulty tracking.

It’s a sentiment echoed by Rick Caccia, vice president of product marketing for ArcSight (www.arcsight.com), who says companies continue to fund projects that either save money or allow them to delay a major capital expense by a year or two. He advises fast-tracking tools that replace manual security processes.

“Manual security processes tend to be risky and expensive,” says Caccia. “You have to pay multiple people to look at things like system logs and application logs, and this costs a lot. Even worse, since it’s tedious, the people doing the looking often miss problems. Automating some manual processes is often a quick way to

Key Points

- Find opportunities for ROI with identity management, consolidation, and automated processes.
- Look at security as an insurance policy for your enterprise.
- Consider outsourcing security processes to save money without sacrificing coverage.

“Security software as a service eliminates the need to budget for additional support, technical training, upgrades for software and hardware, enhanced support contracts, administrative overhead, and the many other hidden costs associated with premise-based or traditional solutions,” adds Van Bruinisse. The administrative oversight required to self-maintain security solutions—from updating anti-malware signatures to updating URL databases and refreshing category lists for filtering applications—can also be expensive and time-consuming.

Look At The Big Picture

IT should also take a big-picture approach to keeping security on the company’s radar. Ozzie Diaz, CEO of AirPatrol (www.airpatrolcorp.com), says IT must demonstrate ROI, policy and regulatory compliance, and business differentiation.

Diaz also says dealing with accelerating consumerization of the enterprise can drive increased security. Describing the trend as “a runaway freight train,” Diaz says the business must have a solid strategy for managing laptops and smartphones brought in by employees, contractors, and guests or risk ending up in the headlines for the wrong reason.

Whatever the chosen process, companies must avoid sacrificing long-term strategic security objectives in favor of tactical fixes. For example, some organizations may cut subscriptions and service agreements. Peter Doggart, Crossbeam Systems’ director of product marketing (www.crossbeamsystems.com), says this is a false saving.

“While it may seem like a fast way to save money,” he says, “these are critical functions that ensure the software is kept up-to-date and catches zero-day threats. Security is a must-have, and there are ways that companies can be smart about how they ensure optimal protection of core business assets.”

“If executives really understood cybercrime and the risks posed by these highly skilled attackers, they would increase their security budget in times like this in anticipation that cybercrime may become more attractive in a down economy.”

- Forrester Research’s John Kindervag

What To Cut

When cuts are unavoidable, focus on the following areas to minimize risk to systems, people, and data:

- Identify threats that have a direct impact on organizational revenues.
- Map security architecture and equipment to identify what’s obsolete and what should be maintained or refreshed.
- Invest in behavioral-based network and application security solutions.
- Use firewalls to protect noncritical services.
- Recycle old equipment.

SOURCE: RON MEYRAN, SECURITY PRODUCT MANAGER FOR RADWARE (WWW.RADWARE.COM).

The Case For New Equipment

Even When Budgets Are Tight, SMEs Must Sometimes Spend Money To Save Money

by William Van Winkle

ONE OF THE RISKIEST DECISIONS enterprises can make during tough economic times is to “make do.” As budgets recede, it seems only sensible to postpone the purchase of new equipment. After all, the current systems have served well enough at least up to present, and chances are that overall business is down, so there’s less strain on existing resources.

There’s a lot of temptation in this viewpoint, but accounting’s or management’s desire for it to be true doesn’t necessarily make it so. In reality, assets on the data center floor may not be performing as well as in times past, whether from strained resource utilization or other causes. Whatever the reason, lower hardware efficiency often means two things: The company can’t grow the business in the manner it wants, and current hardware is operating more expensively than new hardware would be.

None of this changes the fact that, despite the downturn, your business is still going to have to do more with less. So how do you justify spending money on new equipment?

The Energy Argument

In a down economy, you must have strategies to reduce primary expenses such as energy costs. However, older equipment is often guilty of energy inefficiency, and these inefficiencies in turn lead to increased spending on energy costs.

“Companies that identify where they’re spending the most money and tackle those even in a downturned economy are the ones

that are going to be competitive,” says Vernon Turner, senior vice president for enterprise research and consumer research at IDC. “The biggest growing cost right now in data centers is the cost of energy.”

According to Turner, “To run a server today, it costs 70% of the cost of that server’s acquisition. Less than three years ago, you were probably down at 15%. You can’t stand still in a down economy and say you’re not going to spend money because then you’re not tackling the issue.”

Therefore, Turner says, “You have to get your hands around your OPEX—operational expense—not your CAPEX. Energy is an operational expense, and you have to figure out how to lower those costs. The only way you can do that in this particular market is by having fewer servers running more efficiently. And the only way you can do that is by spending some money on your hardware and on virtualization. You are actually going to have to increase spending to be more efficient.”

New Technology Can Reduce Maintenance Costs

Server technology has become more efficient principally through processor advances. Not only are multicore chips able to deliver higher compute density in lower power profiles, but Intel and AMD are both integrating architectural and code-level

Key Points

- Older equipment may run inefficiently, meaning the company spends more on energy in the long run than it would spend on new equipment now.
- New equipment can save on maintenance costs through consolidation and by offering new warranties.
- Implementing virtualization can further consolidate systems and offer increased scalability.



advances to help accelerate specific functions, such as key virtualization tasks.

IDC says servers are most often refreshed in three- or five-year cycles, numbers that coincide with common warranty and software license durations. It follows that enterprises’ single-core machines should be ripe for replacement, and dual-core gear should be pretty close behind. The question then becomes how to convince management that quad-core updates are essential now.

“Two-thirds of IT’s budget is spent on maintaining their existing infrastructure,” says Chris Peters, end-user product marketing manager at Intel (www.intel.com). “That infrastructure consumes a tremendous amount of power, takes up a lot of space, and is made of predominantly aging technology. For the same performance they have today, businesses can get upwards of 9-to-1 server consolidation. That reduces operating costs from power and cooling, footprint, server maintenance—all aspects of software licensing.

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How Do You Measure the Energy Efficiency of Your Data Center?

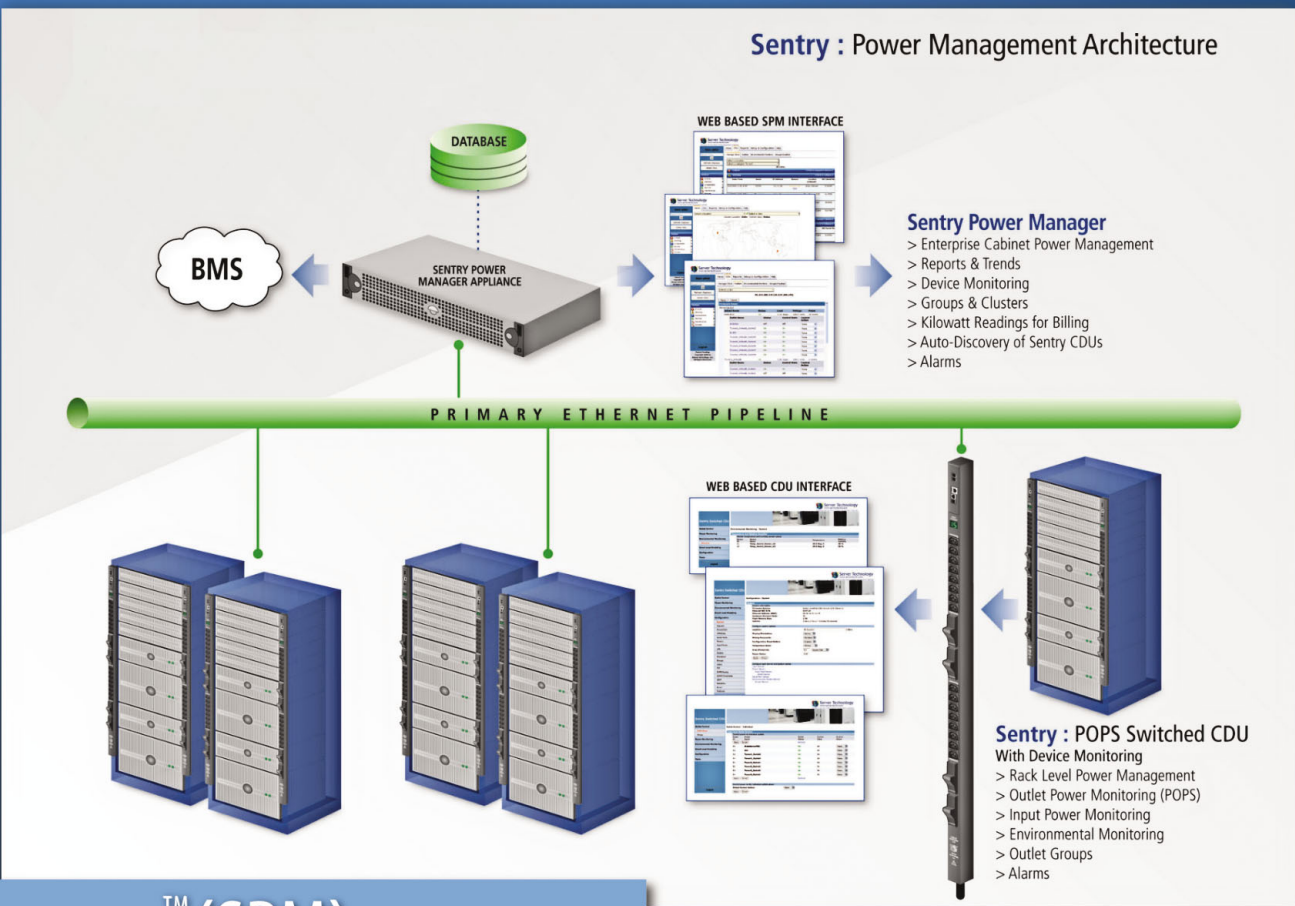
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In Defense Of Storage

When Planning Your Storage Budget, Know What To Fight For & What To Let Go

by George Crump
• • •

YOU ARE ABOUT TO CLICK SEND on the email that contains your proposed storage budget, and you get the uneasy feeling that, because of the current economy, half of it is going to get rejected. Or you have already submitted your budget, and you have been asked to explain why each of these projects is needed and if any of them can be cut. In either case, you will need to explain to people that are possibly not themselves storage experts why you need what you need.

Each submission to the budget or each request for justification of the budget will need to articulate to the reviewers the current environment, the impact of doing nothing, the cost of alternative solutions, and the cost-saving or efficiency-increasing advantages of the proposed project. Here are some things to keep in mind as you plan your defense.

Establish A Baseline

The first step is to make sure that the projects on the budget truly are defensible. Different storage projects will require different types of justification. In almost all cases, you should know what the baseline is for your environment. Look for a storage reporting and monitoring solution that will allow you to develop that baseline.

“Understanding where you are starting and having the ability to report on progress made of a project is critical,” says Ken Barth, CEO of Dallas-based Tek-Tools (www.tek-tools.com). “Whether it is a cost reduction or avoidance project or a performance improvement project, having the facts in hand prior to implementing the project as well as being able to assure budget decision makers that you will be able to provide concrete reporting on the results of the project are going to help sway budget dollars your way.”

Often, budget decisions come down to an either/or decision. Executive management wants to invest the limited dollars that they have on projects they know will have the

most return. Many requests for budget dollars will come with some form of return-on-investment claims; having the ability to document the delta of where the storage situation is prior to the project and then being able to prove the gains made will provide greater confidence in your claims.

If buying a new storage management application is not in the cards for you, there are less automated ways to establish this baseline. For example, you can manually inspect the individual servers and storage in your environment and then aggregate them into a spreadsheet. Most OSes and storage arrays include basic reporting abilities. While not as easy and as real-time as a specific software application, it does give you that critical baseline.

Keep Track Of ROI

Once the baseline is established and the ability to accurately report on the results is assured, the next step in budget dollar defense is to document the gains of each particular project. Projects can typically be categorized as ones that will avoid cost by reducing or eliminating future purchases or as projects that will improve the data center by increasing performance or staff productivity. Ideally, you should select projects that address all of the categories.

“We find that the projects that are getting funded are those that can not only provide a reduction in 2009 capital outlay but also provide long-term deliverables like improved performance and increased staff efficiency,” says Craig Nunes, vice president of marketing at 3PAR (www.3par.com). “Customers that, as part of their budget submission, can show how they are taking

advantage of new technologies like thin provisioning to buy less additional storage [while delivering] improved performance and staff efficiency are the most successful in getting budget approval.”

For projects that are more performance-focused and where an expenditure must be made, it is important to include information about potential lost revenue or employee productivity as a result of an application or system that can no longer keep pace with current demands. In tough economic times, keeping the customers you have is critical, so explaining how failure to maintain expected performance levels is important.

Additionally, performance-based investments can also have a cost-reduction quality to them, according to Woody Hutsell, execu-



tive vice president of solid-state drive manufacturer Texas Memory Systems (www.texmemsys.com). “A higher-performing storage solution that can improve application response time in many cases will do so using less overall power, space, and cooling costs. Often the investment will pay for itself in the reduction of physical devices.”

Protect Disaster Recovery

Another project type that will often come under scrutiny during tough economic times is the backup and recovery or disaster recovery process. Depending on the organization, these projects may be the hardest to defend. On paper, they look like just another expense, and executive management may decide to roll the dice and delay improving the company’s data recovery capabilities.

Key Points

- Establishing a baseline either through manual inspection or automated software is a key first step.
- When money is spent, tracking and promoting the ROI is critical to ensure future funding.
- Cutting in the wrong areas, such as in disaster recovery, can be more costly in the long run.

You will most likely want to factor in the cost of downtime and the cost to recover in the event of a disaster as part of your justification, but Justin Moore, CEO of hybrid on-premise and cloud storage backup provider

Axcient (www.axcient.com), also suggests structuring your data protection project requests around reducing the cost of the current backup operation. “By tapping into new technologies and techniques that are now available, a backup administrator can improve their overall protection and DR associated costs for less than the cost of supporting and maintaining the old infrastructure while improving uptime and continuity,” he says.

Spending Can Be Cheaper Than Not Spending

Any request for funding or justification response should also factor in the impact of doing nothing, because a common response to proposed expenditures is, “Can’t you just make do with what we

have until next year?”

“Doing nothing is something that is often brought up in backup or archive projects,” says Richard April, vice president of marketing at Copan Systems (www.copansystems.com). “The reality is, especially in storage, there really is no such thing. Once you are out of disk space, you have to do something, and so in reality, ‘doing nothing’ is really buying additional storage. When defending a storage project like archiving, you need to explain that just making do will have costs associated with buying more expensive storage, maintaining that storage, and backing that storage up.”

Make sure that an explanation is given as to why keeping the status quo will be more expensive than moving forward with the project. ■

What To Cut: Primary Storage Purchases

For IT organizations, cost cutting is difficult because for most, the budget is already stretched very thin. One area to consider when faced with making cuts to the storage budget is any upcoming primary storage purchase. By using a storage management software tool or through manual inspection, most data centers can find additional space on primary storage.

The first place to look is old data that has not been accessed in a long time. Most backup applications have the ability to do a special backup of this type of data and then delete it from the storage on which it resides. Even backing it up to tape and making a second copy of that tape would be cheaper than buying more primary storage.

The Case For New Equipment

Continued from Page 25

We estimate that they can get about an eight-month payback on that investment to replace that old infrastructure. That can happen within this year. . . . They can take that money saved and put it toward new projects or straight to the company’s bottom line.”

Peters notes that 9-to-1 in going from a top single-core chip to a top quad-core chip isn’t an absolute ratio. Those that need more performance might opt for a 6-to-1 consolidation and roughly see a doubling of performance. (Migrating up from dual-core technology will enable a 3-to-1 consolidation.) Moreover, 9-to-1 only considers hardware. Adding virtualization into the equation can yield even better ratios.

Implementing Virtualization Brings Returns

Applications that are not virtualized make for great door-openers in your pitch to management because these applications are often not operating in a competitive manner. Now that budgets are tighter, most enterprises are focused on deploying only the most competitive business models. Thus, these models are moving away from the traditional enterprise setup, which tended to have robust but fairly proprietary systems and infrastructure that didn’t scale across all business units. Today’s enterprise models pursue this kind of scaling, and the technology that helps enable that is virtualization.

“While you don’t want to spend money on hardware, business models are chang-

ing,” says IDC’s Turner. “You’re going to have to renovate your infrastructure to be competitive, because your cost structure is going to be so high that you’re at a disadvantage even in a down economy. You can’t run those servers at 15 to 20% anymore. You’re going to have to drive up utilization.”

Virtualization may be the key to maximizing resource utilization, but effective deployment of virtualization requires the right hardware with the most current optimizations for those tasks. Once you can convince the budget controllers of this fact, you’ll find it much easier to keep your new systems budget intact—and perhaps even expand it. ■

What To Cut: Vendor Support Spending

An economic downturn may be the perfect time to cut your vendor support budget without actually sacrificing any support. “In most cases, the hardware industry is working in single digits,” says Vernon Turner, senior vice president for enterprise research and consumer research at IDC. “This is where you bring in very aggressive

procurement policies about how you acquire that hardware. You’re much more likely to get a lot back in support. Push for three-year maintenance. If you can get a fourth year of maintenance, even better. I wouldn’t be shy of opening up a lot more RFPs right now because vendors are going to be hungry for your business.”

Protecting Your People

In Times Of Cost-Cutting, Defending Your Staffing Budget Can Be A Hard Sell

by Bruce Gain

THESE DAYS, companies are reacting to tough market conditions by slashing costs wherever they can. Because personnel spending represents a large portion of investments in IT departments, staffing especially comes under fire in hard times. As is all too often the case, however, IT staffers are already stretched too thin in many enterprises. Any personnel downsizing might have direct repercussions on how enterprises operate, and in some cases, IT staff cuts might mean the end of certain business processes altogether. So what can you do? Here are some strategies to help you defend personnel expenses in the face of cost-cutting measures.

Understanding The Context

Protecting staffers from layoffs will involve intensive discussions with those executives who want to reduce the IT department's headcount. It is thus important from the outset to become better acquainted with whom you are dealing and to learn how he or she thinks, says Robert Enderle, president and principal analyst for the Enderle Group.

"You need to get into the mind of the decision maker and understand the decision framework they are using so you can craft a defense," Enderle says. "What I am talking about is knowing the enemy—in this case, the guy making the decision to cut heads."

To understand the mindset of today's business executives, it is also important to take stock of the business climate in which we work. Economic cycles in the United States during the past few decades have mostly been ones of growth as opposed to recessionary periods like the one we are in now, says Michael Smith, an

analyst from Gartner. Most executives' backgrounds are thus likely more geared for growth periods rather than figuring out how to survive a down cycle.

"[During a growth period], organizations pursue growth opportunities and try to differentiate their services while inciting people in sales and marketing to aggressively go after new opportunities," Smith says. "Senior executives now have to conserve cash, but while they have the marketing and sales backgrounds, they really don't understand IT. And so they just see this cost center of money being spent, and the edict comes out to reduce costs by 20 to 30%, and that's where we find ourselves today."

Connecting The Dots

Given today's business context and upper management's sometimes scant knowledge of the relationship between IT and what it does for the organization, it may be neces-



Key Points

- Learn as much as you can about the person who wants to make cuts and what his motivation is.
- Communicate exactly what staffers do and the negative consequences on the business model if they leave.
- Find out about extra costs the enterprise might have to pay to rehire the same staffers when the business climate gets better.

certain tasks will not be completed properly or that less staff will damage how the business functions.

"It's critical to articulate the potential risks of cutting staff. Gaps in maintenance, upgrades, and service pose risks to the organization, and these should be clearly defined and discussed with executives," Snedaker says. "While you can't over-dramatize the situation, it is incumbent upon you to concisely outline potential risks of cuts."

It is also necessary to be as specific as possible by communicating possible negative scenarios that could occur if certain staff members are removed. "You show that if you continue to take people out of the processes inside IT, then eventually service-level agreements are going to start to go down. Business executives need to understand the relationship," Gartner's Smith says. "If Joe fixes problems and then we fire Joe, then there is nobody to fix the problem. And we have 100 problems a month, so that means there will be more outages."

Don't Lose Sight Of Tomorrow

Good people are hard to find, and in the IT sector, this is especially the case. So if one of the corporate bean counters discovers that some IT staffers are not as busy as they used to be, he or she may want to downsize to make up for the downtime in order to save money. However, that may not necessarily be a good idea. One reason to keep staffers who are not working at full capacity would be to make sure that those talented people will still be there when you really need them in the future, as opposed to having to go through the painful hiring process again during the next profitable business cycle.

"Quantifying the costs of finding and training talent when demand picks up [is important], especially for IT shops with unique applications or operating environments," says John Baschab, senior vice president of Technisource Management Services (www.technisource.com). "Often staff cuts are seen as a rapid route to cost reduction, but there are large hidden costs."

And when times are bad and IT staffers must go above the call of duty to save an enterprise, ethical considerations should come into play when mulling staff cuts.

"There is usually an implied contract with employees that asks them to step up for the company in an emergency via night or weekend work," Baschab says. "Depending on the performance of companies, businesses may want to consider their reciprocal obligations." ■



Intel Freezes Salaries

Intel announced it will be freezing salaries company-wide, including those of top executives, in an effort to reduce costs. According to a proxy filing submitted by Intel, salary freezes for some top executives, such as CEO Paul Otellini and CFO Stacy Smith, have to be approved by shareholders. In addition to salary freezes, Intel also says it plans to reimburse employees who have lost value on their stock options, allowing employees to receive new stock options. This is not the first move Intel has made to cut costs. In January, Intel announced it would be cutting 6,000 jobs in the United States, Malaysia, and the Philippines.



Call-Quality Study Puts Verizon At The Top

Verizon receives fewer complaints than other wireless carriers, according to a semi-annual study conducted by J.D. Power and Associates that measures the number of problems people have with wireless calls. The study evaluated wireless issues such as failed connections, dropped calls, static, and echoes. Verizon did better than most other carriers in those categories, especially in the Northeast, Mid-Atlantic, and Southwest regions of the United States. The study also found that the call-quality difference between companies such as Verizon, AT&T, Sprint Nextel, and T-Mobile is shrinking, with the gap between the highest- and lowest-ranking cell carriers narrowing from previous years. All carriers are investing in infrastructure upgrades that translate to better overall performance.

NASA To Develop Joint Research Park

The NASA Ames Research Center will be working with the University of California, Santa Cruz and the Foothill-De Anza Community College District to develop a new research park. The facility's purpose will be to bring together leading scientists and educators worldwide to conduct research and development, says S. Pete Worden, director of the NASA Ames Research Center, which will be leasing 75 acres of land to the new venture called University Associates-Silicon Valley LLC. University Associates will include shared classrooms, labs, housing, and room for business partners. It will use and test renewable energy and resource conservation systems, while seeking to minimize any environmental impact. A master developer will seek investors for the \$1 billion-plus project.

What To Cut: Underperforming Staff

Sometimes staff reductions have to take place, regardless of how hard you have lobbied to maintain staff levels. If this is the case, it can be a good time to look carefully at job performances, says Susan Snedaker, principal consultant and founder of VirtualTeam Consulting. "If you have anyone who's failing to meet job expectations, it's going to be hard to justify [keeping them on staff]," Snedaker says. "Your own credibility is on the line if you try to defend staffing levels that include subpar performers. The argument can be made that if you got rid of those subpar performers and did not replace them, you'd essentially be even, which may actually be the case."

Additionally, it may be possible to make the best of a bad situation by finding ways to use the staff reductions to help your department. It may be possible, for example, to find technologies that you can eliminate or a virtualization process that can lower the number of staffers you need, says Snedaker. "In those cases, if you haven't adjusted through normal attrition, you might be facing some legitimate downsizing needs," Snedaker says.

SIX QUICK TIPS

Buying Used Equipment

Tips To Take Advantage Of This Great Time To Buy

by Drew Robb

THERE IS NO TIME like the present for finding great deals on secondhand gear, and business in used equipment is booming. Kevin Cleary, general manager of IBM Global Asset Recovery Services (www

.ibm.com), for instance, says his company processes more than 40,000 pieces of IT gear a week at some 22 renewal centers around the world. “We find uses for almost 90% of the materials collected,” says Cleary. “We are seeing an increase in requests for quota-

tions for used IT equipment from customers of all sizes as IT budgets have been reduced with the economic slowdown.”

Choose Partners Wisely

A casual search on Yahoo! or Google reveals thousands of companies offering used gear. Many are credible sources. There are some out there, however, that are not. And particularly when you buy over the Internet, you might never see your money again if you choose the wrong vendor.

“Be very careful who your used equipment supplier is, as not all sources are alike,” says Cleary. “Check out the longevity of the firm in the market and if the supplier is willing to provide a list of current references.”

He recommends that close attention be paid to what is included in the purchase price, as well as what type of warranty or satisfaction guarantee is provided. More established suppliers, for example, tend to throw in more value such as purchasing the equipment back at the end of its useful life, configuring hardware to customer specifications, and offering low-cost hardware upgrades.

Attention To Detail

Craig Sargeant owns a used-equipment business, and based on long experience, he recommends that potential buyers of used or refurbished equipment read the full description of what is being offered and ask plenty of questions of the seller before finalizing any purchases. He gives the example of some gear he sold that was clearly advertized as only being good for spare parts. The customer hadn’t read much beyond the price and basic specs and was upset when it arrived in relatively poor

condition. Fortunately, Sargeant offers refunds on anything he sells within 15 days, but not everyone will.

“Read everything carefully and satisfy yourself fully about all the details before purchasing secondhand goods,” says Sargeant. “Even if the supplier offers refunds, you can still sometimes be out of pocket for the hefty shipping charges incurred by shipping equipment across the country.”

Further, Sargeant emphasizes that many sellers are not experts on the gear they offer. Although a few specialize and have detailed knowledge of specific types of products, most suppliers sell a range of material, so they can’t be expected to know everything above them.

“Rely on your knowledge of the equipment,” says Sargeant. “The guy selling it may not know too much about it.”

Networking Good, Storage Bad

Clive Longbottom, an analyst with Quocirca (www.quocirca.com), believes that there are some areas where it is smart to shop for used stuff and others where it is best to stick with new. On the positive side, he suggests networking switches and routers, highly specific pieces of hard-to-find kit where the buyer knows exactly what he needs, or components for out-of-availability parts/equipment where the user has a need to continue on that platform. Storage, though, is another matter entirely due to possible failure rates, management issues, and data protection concerns.

“Be very wary of used storage—make sure that it will be provided with the previous owner’s data securely and effectively wiped, that it supports standard drive

BONUS TIPS

■ **Comparison shop.** When looking for phones, copiers, printers, or computer equipment on the secondhand market, Craig Sargeant, owner of a used-equipment business, recommends comparison shopping. Therefore, do a thorough search to see what is available, what the relative shipping costs are, and the general condition of the item on offer.

Some suppliers appear to quote lower but make that up with higher shipping costs, for example. Further, if the price is a little out of your comfort zone, don’t despair. There may be some wiggle room if the seller wants to offload the item quickly. “Even if the price is out of your range, make an offer,” says Sargeant.

■ **Visit Processor.com.** Point your browser to the www.processor.com Web site to explore offerings on a complete range of used and refurbished equipment. The for-sale listings can be searched by item or vendor. Further, users can post free notices stating what kind of items they wish to buy or sell.

SIX QUICK TIPS

Researching Cloud Computing Offerings

Embracing The Cloud Is Not Easy, Especially When The Idea Itself Is Evolving

by John Brandon

IN A DATA CENTER, moving targets are always the hardest to track. With cloud computing, not only is the target “moving”

and evolving, but it’s also often hard to define. For some, it means storing all applications and data in a remote data center. Others define it as offloading a few noncritical services to a provider who can assure

data integrity. The cloud often means abstracting data from the hardware layer, akin to virtualization, but it could also be the future of all data processing.

To help you develop a sound cloud computing strategy, we tapped several experts to share their insight and knowledge, with guidance meant specifically for a small to medium-sized enterprise considering the cloud.

Offload Extraneous Services

No matter how you define the cloud, most experts view it today as a way to offload services to a provider, as opposed to a technology that warrants wholesale replacement of servers or storage—even in a small enterprise. There are issues related to security and privacy, and the field of cloud computing is still too new as an industry for a company to consider replacing infrastructure with the cloud.

“SMEs should look at receiving services from the cloud that might otherwise be too complex for them to set up themselves or become much more affordable through greater economies of scale,” says Kristof Kloeckner, a CTO at IBM in charge of cloud computing. “Good examples are business resiliency and information protection services, as well as collaboration services. Utilizing overflow capacity in the cloud for highly variable or seasonal workloads is also an attractive opportunity.”

Security Is An IT Concern

According to Simon Crosby, the CTO at Citrix (www.citrix.com), companies that choose to use cloud services should realize that security is an internal concern, not an external issue. Cloud vendors may provide assurances about data security, but the ultimate responsibility falls on the IT department and data center, not on the vendor. For a small to medium-sized enterprise, it might be easy to hand off security management as part of the cloud service. For example, if a company decides to use a cloud provider for a parts inventory system, the SME should be highly involved in terms of authentication, passwords, encryption, and backup for that inventory system and not just rely on the provider to make sure the database is secure. In a discovery for litigation, saying that the company thought the cloud provider would secure the data would not be a good defense—it’s important to show how internal IT is involved.

“It is the responsibility of the organization, not the service provider, to secure valuable data,” says Crosby. “Likewise, detailed service-level agreements need to be put in place to ensure reliability and sustainability for a technology that is outside of the enterprise.”

Look For Cloud Optimization

Merely offering a cloud service is not exactly helpful to a data center: The services must be optimized and well-suited to the needs of the organization. Raejeanne Skillern, a product manager at Intel, says optimization is key for an SME that may decide to choose cloud services meant for a much larger organization and that an SME’s homogenous environment requires customization.

BONUS TIPS

■ **Ask for a contingency plan.** The cloud offers key benefits, such as scalability and flexibility of services. However, the scalability is also a potential liability because a provider could go bankrupt, leaving you without the service.

“Ask your provider what the policy is for [terminated services],” says David Barley, CTO at Casdex (www.casdex.com). “For example, we have a policy that ensures that our customers will have access to their data for at least six months should anything happen to the company itself. . . . This past summer, an online data storage provider went out of business, leaving its customers without access to their data. Surprisingly, many companies have similar, nonexistent policies with regards to data storage in the event of bankruptcy.”

Barley says that the current economic crisis demands that companies take a longer look at service contracts and examine exactly how a cloud provider will retain data and make it available if financial problems lead to that company terminating services.

■ **Lower service costs.** Paul Wood, a senior analyst at MessageLabs (www.messagelabs.com), now part of Symantec, says the cloud is an opportunity for data center managers to lower overall operating costs. “By engaging with a SaaS- or cloud-based solution provider, it is also possible to look at reducing costs relating to the purchase model and the way the services are utilized, e.g. scalable, implementation-neutral, and cloud-based. This reduces the demands on maintaining internal data centers, with more focus shifting to service delivery and robust SLAs.”

formats, and that it has the capability to scale to the densities required,” says Longbottom. “Some machines can only accept disks up to 320GB, which is no use at all if you had planned to load it up with a disk of 1TB or larger.”

Also, storage prices have dropped steeply in recent years, while at the same time, capacity, speeds, and overall specs have soared. It might not actually be cheaper to nickel and dime storage.

Existing Assets

With cash being in short supply, it is more important than ever to make existing assets last as long as possible. Take a phone system, for example. Most SMEs have already invested thousands or even tens of thousands of dollars on phone switches and handsets. It makes financial sense, therefore, to eke another year or two out of that equipment.

Even if the gear has gone out of production, it is quite often the case that it is still available at reasonable prices.

“You can save a lot of money on second-hand phone systems on the Internet,” says Sargeant. “Just go online, and you can usually find the parts you need.”

Best Tip:

PCs Going Cheap

Kevin Cleary, general manager of IBM Global Asset Recovery Services (www.ibm.com), mentions that PCs in particular are more available than ever. This glut of used PC technology on the market today is the result of the latest wave of global corporate downsizing. Therefore, there are plenty of good deals around for any SME looking to add or change out PCs. While these might not be the latest models and specs, some of them might not be more than a year old.

“Prices for used PCs are dropping to reflect the increase in supply,” says Cleary.

Smart Tip:

Avoid Equipment That's Too Old To Be Useful

Some of the very best bargains out there, however, might not be worth as much as they appear on the surface. Some servers, for instance, might be so old that their processors, RAM, or amount of disk space are unviable. Some firms are also dumping first-generation blades and VoIP gear that has been surpassed utterly by more recent offerings in terms of price and functionality.

“There’s a lot of old kit available at the moment, and although it looks cheap, it’s best to avoid it if it has passed its use-by date,” says Clive Longbottom, an analyst with Quocirca (www.quocirca.com). “With a lot of new servers, desktops, and laptops being priced at historical lows, carefully compare the price of new against used to verify you are really getting a deal that is too good to pass up.”

“Large cloud service providers can achieve up to 10x efficiencies over traditional IT through optimized technologies,” says Skillern. “Although you may not be deploying thousands of servers like Microsoft or Google, there are CPU, platform, and software optimizations available through Intel, in collaboration with leading OEMs, that can be applied to smaller deployments to maximize cloud architecture investments through increased power efficiency, server utilization, and application optimization.”

Not All Applications Are A Good Fit

As an all-encompassing term, cloud computing often seems like an all-or-nothing prospect. Patti Dock, COO of DataMotion

(www.datamotion.com), a company that provides governed integration and collaboration managed services, says that not every application is a good candidate for cloud infrastructure, especially those that require fast performance.

“Not all applications should be moved to the cloud,” says Dock. “If you are doing things where the entire process is in-house, why put the process in the cloud? If something requires millisecond response time and speed is critical, the cloud may be impractical. Then there is the issue of licensing restrictions. Or think about having someone have access to your mainframe application ‘from the cloud’—IT operations wouldn’t be too excited about that prospect.”

Best Tip:


Consider The Programming Environment

Not all cloud platforms are the same. For example, some platforms are geared specifically for customers that use the company’s other products. “When evaluating your cloud computing options, bear in mind not only the total cost of ownership, but also the cost of adoption or migration,” says Randy Bias, vice president at cloud provider GoGrid (www.gogrid.com). “Different cloud providers have different offerings. In the case of Google App Engine, all of your code must be written in Python. In the case of Amazon Web Services, you are constrained by their networking architecture (e.g. no VPNs, loadbalancers, or advanced networking). There is quite a lot of choice in cloud providers today; however, if your product requires using a language besides Python, multicast networking, [or] VPN access or you prefer hardware load balancers, it will behoove you to look beyond the more obvious cloud offerings.”

Best Return On Investment:

Scale Services


The cloud provides an opportunity for a data center to scale services according to business needs, says Simon Crosby, the CTO at Citrix (www.citrix.com). “DCs should begin by adopting the technologies that allow clouds such as Amazon EC2 to offer both cost savings and metrics-based pricing into the enterprise environment—turning the IT department into a dynamic, cost-effective service that is responsive to the needs of the business.”




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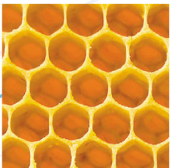
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How To

Make Sure Your Cooling Equipment Is Ready For Summer

Proper Maintenance Will Result In Optimal Operations

by Sandra Kay Miller

WITH SUMMER AROUND THE CORNER, the time is now to ensure data center cooling systems are up to task for rising humidity and temperatures.

Steven Harris, director of data center planning for the Forsythe Solutions Group, says modern data centers are typically immune from seasonal temperature changes; however, regardless of the age of your data center, there are still a number of factors to take into consideration as the summer months approach.

Think Outside The Box

Some of the critical infrastructure responsible for maintaining a steady temperature within the walls of a data center actually resides externally. Mike Petrino, vice president of PTS Data Center Solutions, explains, “There’s a couple things that come into play that most data center managers and IT people don’t think about but are overall key to the approach to dealing with the data center in the summer months. For instance, chillers for heat exchange are a large component that is

built outside of a data center, [and they include] pumps and compressors.”

Harris and Petrino warn that exposure to the elements can cause these components to fall victim to excessive UV rays, heat, humidity, and organic materials, which can impede or reduce optimal operations.

Pumps, compressors, and chillers should be on a biannual maintenance schedule for such things as belt inspection, lubrication, and cleaning or replacement of intake grilles and filters. You also need to ensure the external chiller equipment is clean. If the intakes are clogged so much that the unit can’t effectively function, Petrino says an overheated data center is a very real possibility. “Typically, we suggest preventative maintenance on outdoor equipment be done every six months, coordinated to be completed in the spring and the fall,” Petrino says.

Harris explains that data centers with older HVAC systems can struggle to maintain acceptable operating temperatures, especially if the data center is located in the South and has large, south-facing windows. “Data centers should try to shade outside equipment,” he says. “This can help increase the overall efficiency of the cooling system since it won’t have to work as hard to maintain a lower ambient temperature.”

Enterprises that utilize chillers must also keep in mind that much of their chiller equipment operates in two distinct modes: winter operation and summer operation. The difference is that during winter operation, the unit has the capability of automatically turning on an internal heater, allowing the unit to operate more efficiently. Petrino says the key is to make sure the chillers aren’t operating in winter mode when the summer months roll around.

Maintain A Schedule

With an indoor environment that remains fairly static year-round, remembering to maintain facilities seasonally isn’t as easy as remembering to change the batteries in smoke detectors when adjusting your clocks for Daylight Saving Time. Petrino provided several suggestions for helping data center managers stay on top of scheduled maintenance.

In the marketplace today, there are a number of data center maintenance and environmental monitoring programs available to help managers keep track of maintenance. Petrino suggests using maintenance software because it will send out alerts and reminders to check these systems, forcing managers to look at their maintenance

TOP TIPS

- | | | |
|--|--|--|
| • Older data centers are more susceptible to seasonal cooling challenges during the summer months. | changes to the data, which may require additional cooling capacity. | HVAC redundancy, portable AC, or noncritical systems shut down. |
| • Choose a metric, such as critical load, to assess any | • Have a backup plan in place that includes things such as backup power, | • Perform regular maintenance on external HVAC and power backup equipment. |

How To

Get Better Control Of Spam

Filters & Other Devices Aid In Fight Against Spam

by Jean Thilmany

CUTTING DOWN THE number of spam messages coming in to your enterprise’s email system is a laudable goal and a never-ending challenge. The task may seem next to impossible, but it can be done.

However, just as you defend against one type of spam, spammers come up with another type, says Tom Cross, researcher with IBM’s X-Force Threat Analysis Service. “In the beginning of 2007, we saw spam containing image file attachments, because it was difficult then for Web-filtering software to filter those images,” he says.

Spam-filtering software soon adapted, and IT departments no longer saw a great deal of image-based spam. Later in 2007, spammers tried attaching PDF or audio files to their messages to get through filters. Neither of those tactics was effective or lasted long, Cross says. “Today, we see URL-based spam with links that often seem

to be to legitimate Web sites that filtering software won’t filter out—like blogging sites,” he explains. Spammers post their content at those sites.

Stay On Top Of Spam

Filtering software is a must if you want to stay on top of the latest spam versions. But you should look beyond traditional filtering technology, which works by blocking messages from sources that have sent emails in numbers that fall beyond a predefined threshold.

Look for filtering technology that recognizes and blocks spam sources and automatically provides protection against new spam types, including image-based spam, says Sean Brown, technical product manager for IBM’s Proventia Mail and Content Security.

Begin With The Basics

Freelock Computing calls upon a number of open-source spam-fighting tools when

working with the small enterprises for which it does consulting work, says John Locke, Freelock Computing manager. Email users won’t notice an interruption in service when some of these techniques are implemented. Other tools, such as third-party tools, offer effective protection with trade-offs, he adds.

Locke adds that you don’t want to overlook the basics when fighting spam. Begin by looking at your filtering practices. “Once you’ve received the email, we think the best practice is to run it through a virus filter that’s set to reject or discard the most egregious, spammy messages,” he says.

Mail that does get through the filter can be tagged to allow mail delivery agents to further quarantine messages that have a lower score.

In addition to filtering, other spam-fighting measures include tar pitting. This technique involves configuring the mail transfer agent to throttle connections at times when multiple error messages appear.

“Throttling is a great way to minimize the damage of attackers connecting to a server to try to scan every English name and other common aliases in order to determine which accounts are valid,” Locke says. Administrators set a soft-error limit designating the amount at which to start throttling messages and a hard-error limit to cut messages off, he says.

“We generally set all of our servers so that after the third bad address, the connection starts slowing down until each one takes a minute or more to respond,” Locke says. “When they’ve hit 20 errors, they’re dumped.”

The server setting ties up the spammer’s connection to inhibit it from harvesting legitimate addresses at the company and to prevent it from quickly moving on to other hosts.

Another spam-fighting method uses SPF (Sender Policy Framework). This tactic works best for spam messages that appear to come from within your company. Setting up an SPF necessitates publishing a policy for where mail from your domain can come from and then setting your email server to enforce any published SPF policies.

“If you can designate all the servers you send email through, you can stop spoofed mail from your own domain cold,” Locke says.

As more companies publish SPF policies, more spam that appears to come from known domains will be cut, he adds. The downside to the SPF, however, is that publishing these policies may interfere with mobile workers who send email through a variety of different servers, says Locke.

Greylisting Splits The Difference

Greylisting is another spam-fighting tactic. This method takes advantage of the resilience of mail delivery by temporarily rejecting mail from any unknown sources the first time that source sends a message. Legitimate mail servers queue the mail up and try delivering again in an hour or so; infected botnets don’t bother getting into the queue.

Greylisting has an obvious downside: Your employees won’t receive mail from new people immediately.

TOP TIPS

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|---|---|
| • Ensure you have a state-of-the-art spam filter and adjust settings to meet company needs. | • One expert suggests layering on the various spam-fighting methods applicable for your enterprise, including additional spam filters and configuring your mail transfer agent to reject any mail from a sender it doesn’t recognize. |
| • If possible, avoid posting email addresses on your enterprise’s Web site. Consider designing a Contact Us page. | |

plans and evaluate where they are in the process.

A seasonal maintenance plan may also include a regular review of a data center’s critical load. Petrino suggests using the load as a metric in determining when a cooling system’s key threshold is met. “We always refer back to load because data center managers are pretty savvy about logging in to their UPSes or setting alarms on that type of equipment to quickly alert them to any issues taking place,” says Petrino. By using load as a key driver in the data center, Petrino can easily translate data into useful information quickly obtained by IT managers for accurate monitoring and decision making.

For example, UPS logs may reveal that over the past year, the critical load has increased by 20%. If there have not been any heat projections mitigated by additional air conditioning, the data center could be at risk during the summer months from the increased heat and humidity. “If you have an overall plan of what the room is supposed to look like once it’s filled out, when you hit certain points in your coordinated plan, you need to take action,” Petrino explains.

To be on the safe side, especially when load on the data center has significantly increased from one year to the next, Harris advises including redundancy in the overall cooling plan—that includes backup power, such as generators. Prior to summer’s arrival, managers should test-run switching over from the grid to a generator to ensure a smooth transition in such an event.

It’s important to keep in mind that if metrics reveal a need for additional cooling for the coming months, it’s best to start as

Key Points

It’s important for enterprises to ensure their data centers can handle the rising temps and humidity that will come with the onset of summer. Data center managers need to remember to schedule regular maintenance for indoor and outdoor cooling equipment and be sure to stick to that schedule for optimal efficiency. If you have a hard time remembering to service data center equipment, maintenance and environmental monitoring programs are available.

early as possible. “From the moment you release orders, you could be looking at 10 to 12 weeks before that upgrade is complete. There are some products that can be available in two to three weeks, but remember there could still be construction, installation, startup, and testing,” Petrino warns.

For organizations with data center cooling systems stressed by summer heat, as well as tight budgets, consider temporary roll-in-style air conditioning. These portable machines can quickly reduce hot spots and get the building-wide cooling system operating within an acceptable range, but only if you direct their exhaust away from the existing taxed system.

In the event of epic heat waves or other form of disaster—either mechanical or natural—data center managers should always have a plan in place for shutting down the nonessential and least-critical servers to keep vital systems operational.

“The key component behind having to deal with summer cooling issues is going to resonate back to proper planning and understanding,” surmises Petrino.

Key Points

As hard as you try, you can never completely avoid receiving spam messages because spammers are always coming up with new forms. Employing a stellar spam filter is ideal, but you may need to enlist other spam-fighting methods to catch the most unwanted mail. Consider using other techniques, such as tar pitting or SPF (Sender Policy Framework), when fighting spam within your enterprise.

another expert who believes it is necessary to have a good spam filter. However, Sinai proposes still more ways to cut the amount of spam that reaches computers within an enterprise.

He suggests using a feedback form for customers rather than posting an email address on your enterprise’s Web site. If you must display an email address on your site, he suggests displaying an image rather than the written out email address to discourage spam spiders, which troll the Internet searching for email addresses.

Sinai says enterprises should also consider software that enables them to create a Contact Us form on their Web sites. An Elementool program, for instance, includes a spam filter managers can use to store all the messages their enterprises receive from and send to customers in a database, as well as track and view the correspondence history of each message. IT managers can adjust filter settings depending on their enterprises’ needs.

Spam can be a burden or a simple nuisance, depending on your spam-cutting techniques. Put some of these simple methods in place and keep up with them, experts advise, and soon you’ll see less spam cross your servers.

Look To Your Web Site

Yaron Sinai, chief executive officer at Elementool (www.elementool.com), is

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Oracle To Pay First Quarterly Dividend

After reporting stronger-than-expected results for its fiscal third quarter, software maker Oracle will pay its first ever quarterly dividend. Beginning in May, Oracle will pay shareholders a quarterly dividend of 5 cents per share at an annual cost of about \$1 billion. The company beat some analysts' predictions for its fiscal third quarter revenue, which rose 2% to \$5.45 billion, although profits fell 1% to \$1.33 billion. Oracle issued conservative forecasts for its fiscal fourth quarter, citing the recession and the stronger U.S. dollar.

IE8 Market Share Steadily Growing, But So Are Other Browsers

Although Microsoft's Internet Explorer 8 Web browser has been steadily gaining market share since its mid-March launch, almost all other browsers, including Mozilla's Firefox, Apple's Safari, and Google's Chrome, have also increased their market shares. Even IE6 increased its market share. The first few days of IE8's release saw a steady increase in use, but after the first weekend, users turned back to IE6 and IE7. Presumably, this is because users in the workplace only use approved Web browsers (such as the earlier versions of IE). Because IE8 is still so new, it's likely not an approved browser at most enterprises.



IBM Confirms Job Cuts

IBM says it is cutting jobs in North America, but the company refuses to be any more specific about where the jobs are being cut geographically and how many American workers are losing their jobs. There is widespread speculation that IBM is transferring 5,000 jobs to India, with IBM's Global Business Services unit the latest area to see job cuts. In January, IBM laid off about 2,800 employees from its software, sales, and distribution divisions. IBM says some of the laid-off employees will be reassigned to jobs within the company.

WinXP Demise To Pressure Win7 Deployment

Businesses may not have as much time as they expect to migrate from Windows XP to the upcoming Windows 7 operating system due out around the end of this year, says a report from Gartner. Most third-party software developers may stop coding for WinXP by 2012, according to the report, despite the fact that Microsoft currently plans to support WinXP until April 14, 2014. Gartner foresees a time crunch because most organizations are skipping Vista and because businesses typically need 12 to 18 months after the release of a new OS to fully assimilate it.



Up & Running

Tips To Improve Your Email Uptime

by Holly Dolezalek

. . .

WHAT'S THE EASIEST WAY to go from hero to zero? Email downtime. At any company where employees can't send email, communication falters, relationships with partners and customers suffer, and executives get into more of a panic the longer the downtime continues.

A recent survey by Neverfail (www.neverfailgroup.com), an Austin, Texas,-based messaging infrastructure company, polled 220 IT managers at midsized companies to ask them what the consequences of email downtime were. The results revealed that 25% of respondents said they would lose significant employee productivity, and 19% said they would lose revenue during email downtime. But there were other fears, as well: 34% said that it would endanger company or customer relationships, and 6% said that regulatory compliance would be affected.

Nearly three-quarters (74%) said that their company could only tolerate one

downtime. Here are some tips to help you do both.

Hope Is Not A Plan

Start by thinking about how much downtime your company can take and formulate your plan for dealing with it accordingly. "Your contingency plan depends on an understanding of downtime's impact," says Andrew Barnes, senior vice president of corporate development for Neverfail. "If losing email for short periods would have little impact, then ordinary backing up to recover from a server crash is a solution. But more impact dictates a replication strategy so that you don't have to take the time to go to backup tapes or disks to rebuild. And if downtime is going to have a critical impact, that means [you need] an availability option that doesn't require a recovery process at all."

Those different levels require an honest assessment of the IT skills you have onsite, as well. If your operations are open 24/7, do you have someone who is available 24/7 to address any failures, whether hardware, software, or both? Or, are you a nine-to-five shop that's providing 24/7 availability to email users? Can

"If downtime is going to have a critical impact, that means [you need] an availability option that doesn't require a recovery process at all."

- Neverfail's Andrew Barnes

hour or less of email downtime. Less than a quarter (24%) could tolerate four hours or more of email downtime, and none said that 12 hours of downtime was tolerable.

Obviously, every company is going to have email downtime now and again. It's a matter of managing your planned downtime and minimizing your unplanned

More Email Uptime Tips

Avoid resource exhaustion. One way to ensure email uptime is to have one more server than is required to process mail.

Have alternate routes. Each server that processes mail should have multiple inbound/outbound routes to avoid backups or failures due to downstream network issues.

Consider a hot backup. "Many organizations use a 'failover' disaster recovery model where the disaster recovery data center is, essentially, cold until need arises," says Bob Boucneau, senior consultant for professional services for Sendmail (www.sendmail.com/s). "But for backbone infrastructure services like email, LDAP, or DNS, this is the wrong model. These services should be active and in use for both the primary and disaster recovery data centers to the greatest extent possible so that when a failover is initiated, these core services are absolutely certain to be available."

Remember all your users. Email downtime affects not only onsite users, but users who access email over the Web, Windows Mobile, or their BlackBerrys.

Think globally when you act locally. If you take down the server for maintenance at midnight in California, remember that it's 8 a.m. in London.

you schedule server maintenance that will cause planned downtime for late in the evening, or will that involve paying overtime? If your company is trying to offer email availability that it can't always deliver, a hosted email service might make more sense. But formulate your plan based on what you have, not on what you could have or think you should have.

Proactively Manage Server Health

The most frequent cause of email downtime is ordinary server downtime, whether that's due to hardware failure or software configuration issues. A simple hard drive failure in the server will take the email down with the server. But so will running out of hard drive space or a power failure if you don't have a backup power supply. "Tools that monitor disk status, detect an imminent crash, and monitor the health of your server's configuration help you to keep your server—and your email—up and running," says Barnes.

Avoid Resource Exhaustion

Messaging is a cost center, not a revenue generator, and that's why many companies make do with the least amount of infrastructure. The key to avoiding unplanned downtime is redundancy, such as a backup server, so that even if one server goes down, the system can fail over to the other server and mail can continue to flow.

Bob Boucneau, senior consultant for professional services for Sendmail (www.sendmail.com/s), a messaging infrastructure company in Emeryville, Calif., also suggests that any company that is without some kind of spam filter is asking for unplanned downtime. "Especially with older systems, if you're not doing some kind of preprocessing for spam, mail volumes can suddenly go

Key Points

- Plan for downtime so that even if it's unexpected, your plan matches the IT capabilities you have.
- Once you create a downtime plan, test it out to make sure it really works the way you want it to.
- Monitor your server's health proactively and don't make do with the least amount of capacity.

up by 10 or even 30%, and suddenly the server can't handle the volume at peak times," says Boucneau.

Follow Best Practices

Whatever your company's resources, there are practices that minimize downtime. For example, any reconfiguration, patch, or other maintenance that takes the server down should happen after 5 p.m., preferably on a Friday—not at 10 a.m. on Monday. Patches that fix low-risk problems can wait until they've been tested, or at least until lower volumes of traffic are on the network. The firewall and the file server should never be on the same server. "Many companies have both on the same server, and they shouldn't do it; it amounts to trying to protect your email server on your email server," says David Setzer, CEO of Mailprotector (www.mailprotector.net), an email and Web security company in Greer, S.C. "Whatever you can do to move threats off the server and out of the network—for example, your Windows-based server should not communicate with the Internet at large—will help protect your email availability."

Test Before Publishing

Software difficulties can take down a server, as well, particularly network issues such as an incorrectly configured database or router or a tangle between DNS, the firewall, and a router. "Networks are more complex than people realize, and when it comes to firewalls and routers, there are probably only about 10 people in the world who understand them completely," says Boucneau. "They're a big area of human error, and the mistakes people make can be hard to troubleshoot." For that reason, if it's an option, new configurations should always be tested before they're visited upon the whole network.

But what if you can't afford the costs of a testing environment? That's when a hosted email service might make more sense, Setzer says. "Redundancy is expensive, and you can have the benefits of redundancy without bearing the sole cost," he says.

Develop & Follow A Test Plan

No matter how carefully you monitor, the factor that most often causes downtime is ordinary human error. That's why focusing on more exotic (if still possible) causes such as malware, viruses, or denial-of-service attacks can be detrimental. "Software today is so complex that human error causes a lot of problems, including email downtime, and the amount of training to know how to manage it is too cost-prohibitive for many companies," Setzer says.

For that reason, a test plan to make sure that redundancies are working is essential. For example, if your plan is to send mail to an alternate server if the main server goes down, test to make sure that really happens. "Every organization should regularly power off the servers, singly and in groups, to test automatic failover so that if a real failure occurs, there will be no doubt that mail continues to flow," Boucneau says. ■

SQL Injection Invasion

Weak Web Applications Increasingly Fall Prey To This Potentially Devastating Attack

by Christian Perry

AS SECURITY MEASURES in data centers become progressively more stringent, hackers are turning to more unique methods to access sensitive data. One of these is SQL injection, which replaced cross-site scripting as the predominant Web application vulnerability in 2008, according to an IBM study. “SQL injection attacks are used to access data within a database in a way that was not intended by allowing clients to enter arbitrary—and often malicious—strings into open queries,” explains Jack Danahy, co-founder and CTO for Ounce Labs (www.ouncelabs.com). “Typically, this abuse is restricted to the privileges associated with the user’s credentials, but in some cases, Web front-ends can operate with high-level permissions, leaving the entire database and its configuration open to attack.”

The risks involved with SQL injection attacks are extensive, potentially reaching far beyond the realm of stolen data due to the

ability of hackers to deface or modify Web sites or infect sites with malicious scripts that can then infect visitors’ computers. Despite its power, SQL injection isn’t necessarily used to target huge enterprises. “While it’s unlikely that global banks and major online retailers will be vulnerable to SQL injection attacks, the same is not necessarily true for regional banks and credit unions, smaller online retailers, and government agencies, such as state RMVs [registry of motor vehicles]. These organizations are much more likely to suffer from SQL injection attacks,” says Phil Neray, vice president of marketing at Guardium (www.guardium.com).

Cleaning The Code

SQL injection attacks can be thwarted by implementing security tools that prevent malicious code from being placed on a server, but many experts agree that the first line of defense is the creation of secure coding practices. Randy Bohrer, a senior security consultant with Akibia (www.akibia.com), notes that only the type of data expected should be accepted by Web applications or database servers.

“As an example, most form fields only accept alphanumeric characters. Entering wrt54g in the search field of an e-commerce site is a valid entry, but !@#%^&*() is not a valid entry and may result in performance issues or denial of service on a vulnerable system. Likewise, p@ssw0rd! might be a valid entry for a password, but pwd’ or 1=1— is not a valid entry and may result in unauthorized access on a vulnerable system,” Bohrer says.

A common reason for SQL injection attacks doesn’t stem from developers’ inability to thwart them, but instead from lack of developer awareness. Guardium’s Neray says that training and monitoring are key because inexperienced Web developers are simply not aware of the various methods savvy hackers use to trick applications and databases into providing sensitive information.

According to Danahy, applications should be written with fairly standard validation so that data input fields are checked before being sent through the application. For example, if an application requires a username and all of the application’s users have alphanumeric names, the application should check only for alphanumeric characters and return an error if it detects anything else. Along the same lines, applications that accept Social Security numbers should accept only numeric data, he says.

Key Points

- SQL injection threats are now the top Web application vulnerability and pose a serious threat to servers and databases holding sensitive data.
- Coding procedures should keep an eye on the potential for SQL injection by preventing unexpected user input.
- Certain intrusion systems and regular testing can bolster efforts to prevent these attacks.

Slavik Markovich, CTO and founder of Sentrigo (www.sentrigo.com), advises that the first rule to follow when building applications is to use static SQL wherever possible. Further, he says all modern development frameworks support bind variables (parameterized queries) and developers should use them to prevent SQL injection and improve query performance.

Technical Solutions

Training and awareness are key, but technology itself is also becoming a widely used weapon against SQL injection attacks. Greg Linares, lead research engineer with eEye Digital Security (www.eeye.com), says that Web administrators should use a NIPS (network intrusion prevention system) at minimum and should consider installing some form of host-based IPS with Web application protection.

“However, if the site has SSL functionality, the attacker can easily evade NIPS, since the traffic would be encrypted,” Linares says. “HIPS [host intrusion prevention system] solutions that deal with Web application protection can be very effective at thwarting attack attempts against Web servers. This works by disabling exploit-specific keyboards or SQL functionality by analyzing every HTTP request and ‘cleansing’ it of any potentially malicious data.”

Guardium’s Neray also recommends implementing real-time database activity monitoring technology to track all SQL transactions and continuously checking for unusual or suspicious activity, such as a high volume of failed logins, an unusually high volume of queries in a given period of time, or the execution of SQL commands that are not typically executed by the organization’s Web applications.

SQL injection is only one form of input validation attack, says Ounce Labs’ Danahy, so it’s a good idea to watch for others. These include the aforementioned cross-site scripting, as well as command injection, which allows an attacker to exercise system command functionality through an unvalidated input to a system-calling function. **P**

Stay Secure Through Testing

Untested code serves as a virtual playground for hackers, who invariably find vulnerabilities within it that can lead to unauthorized data access. This is particularly true with SQL injection threats, which can take advantage of weak applications and aren’t generally recognized by run-of-the-mill firewalls. If you’re relying on inexperienced or otherwise unaware developers, it’s imperative that you have stringent testing procedures in place that can help identify vulnerabilities.

“Regular testing for application vulnerabilities is essential for detecting issues in new or modified code, as well as for determining the vulnerability of the environment to new exploits,” says Randy Bohrer, a senior security consultant with Akibia (www.akibia.com).

Although regular testing along with security devices and an intensive quality-assurance program for the deployment of in-house code can be expensive countermeasures to SQL injection attacks, the alternative isn’t pretty. “The disclosure of information, modification of data, and unavailability of systems can be more expensive. The value of what is protected needs to be considered with vulnerabilities and threats to determine which countermeasures to employ in the environment,” Bohrer says.

China Denies Malware Involvement

The Chinese government has officially denied ownership of a vast network of malware, designed to spy on government institutions and ministries around the world, despite evidence suggesting that it originated in and is controlled by servers in the country. GhostNet was unveiled as a network of about 1,300 compromised systems by researchers at the University of Toronto and the SecDev Group’s Information Warfare Monitor. China recently amended its cyberdata theft regulations, but analysts foresee difficulties in enforcing the laws, given the sheer size of the country and its overseas interests.

FTC Asked To Investigate Google

A privacy group has asked the Federal Trade Commission to investigate whether Google’s cloud computing services, including Gmail, Google Docs, and Picasa, offer adequate privacy safeguards. In its request, EPIC (the Electronic Privacy Information Center) asked the FTC to bar Google from offering these services until the company puts safeguards in place. EPIC also wants the government to force Google to pay \$5 million to help fund security research. The group submitted its request a week after a bug in Google Docs exposed a small fraction of word processing and presentation documents stored on its site. Google says the flaw is now fixed and that the bug only affected 0.05% of Google Docs documents.



The PACid Group Sues For Patent Infringement

Texas-based company The PACid Group has sued 19 computer companies and subsidiaries over an encryption key generator—both the system and method. Some of the defendants include Apple, Broadcom, Dell, HP, Intel, Lenovo, and Toshiba; The PACid Group claims that these companies have infringed the patent (U.S. patent No. 5,963,646) for a number of one-time use encryption keys in certain computing devices. Incidentally, a few of the companies involved in this lawsuit are part of the Coalition for Patent Fairness, which lobbies for patent reform and decreasing related costs.



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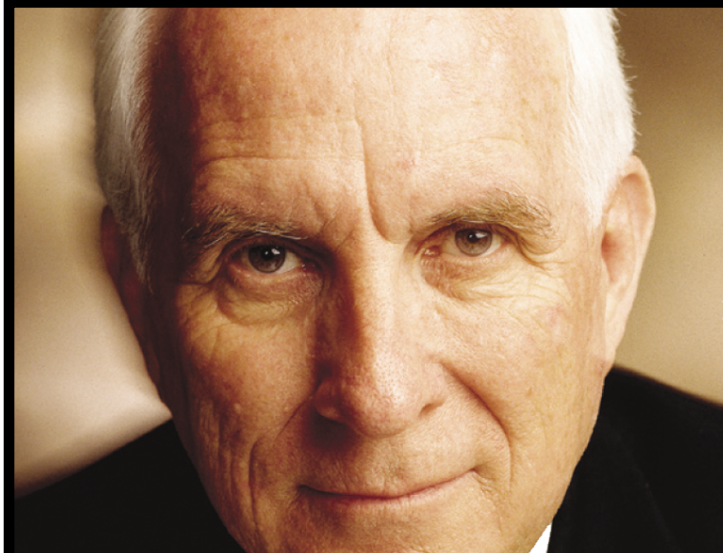
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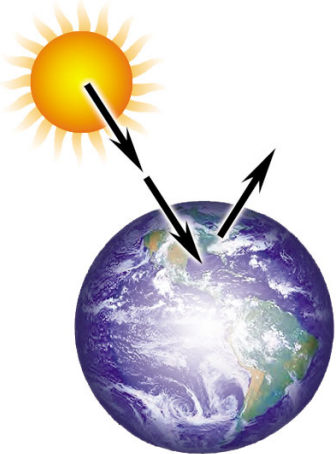
The U.S. Department of Health and Human Services selected David Blumenthal, M.D., M.P.P., to lead the Obama administration's health IT plans. Nominated as the National Coordinator for Health Information Technology, Blumenthal will be in charge of developing an interoperable health IT infrastructure by 2014. The U.S. government's goal is to slash health-care costs by \$12 billion in the next decade. Blumenthal's recent credentials include his service as physician and director of the Institute for Health Policy at Massachusetts General Hospital/Partners HealthCare System in Boston and director of the Harvard University Interfaculty Program for Health Systems Improvement.

Energy Department Awards Alternative-Energy Loan

The Department of Energy is in the process of handing out its first alternative-energy loan. The loan will reportedly go to Solyndra, which says it will use the funds to boost production of photovoltaic systems at its Fremont, Calif., facilities. Solyndra says the money will cover about 75% of the project costs. The project is expected to produce thousands of new construction, manufacturing, and installation jobs. The photovoltaic panels are expected to produce 15 gigawatts of electricity and save about 300 million metric tons of carbon dioxide emissions.

Study: Companies Unprepared To Manage Greenhouse Gases

The majority of companies are not prepared to follow and manage the greenhouse gases linked to potentially catastrophic global climate change, research firm Gartner says, even though strict government regulations meant to reduce the amount of carbon emissions are inevitable. The percentage of large companies



worldwide with plans to use carbon-tracking systems remains low, but there's a growing number of companies planning to implement such systems. Gartner surveyed 626 midsized and large companies for its report.

Economy Has Cell Phone Users Rethinking Service Plans

A recent survey of about 2,000 U.S. citizens indicates that cell phone users aren't willing to completely give up their mobile devices because of the current economic recession, but 41% are likely to cut back on extras if the economy continues to worsen in the coming six months. According to the study, which the New Millennium Research Council sponsored and Opinion Research conducted in early March, 19% of those with cell phones have discontinued cell phone service in the past six months because of losing a job, fear of losing a job, or other recession-related matters. About 39% with contract-based cell phone plans report they'll be very or somewhat likely to cut back on cell phone expenditures to save money.

Think Outside For Cooling

Average Temperature, Humidity Are Deciding Factors For Most Enterprises

by David Geer
• • •

MANY DATA CENTER locations are turning to outside air, also known as free air or free cooling, to provide equipment cooling at a cost savings.

“In Seattle, new data centers are required to bring in outside air for cooling. They are very environmentally conscious there,” says Wally Phelps, engineer at Degree Controls (www.degreec.com).

However, Phelps admits that there are areas where using outside air would add costs. For example, humidity ranges in different locales make it impossible for every data center to use outside air without rehumidifying it.

Despite this, the trend toward adopting some kind of outside-air implementation is gaining force. “While less than 15% of large data centers are using free air cooling today, that number should rise to 50% in about four years,” says Rakesh Kumar, a Gartner Research vice president.

But before you go punching holes in the server room walls, you'll need to first evaluate climate, humidity, and air-quality issues. Some data centers may conclude that outside air is not worth the cost or trouble.

Temperature & Location

The frequency of acceptable temperatures is the biggest consideration for using free air cooling, says Matthew T. Parker, a project manager at Stantec, a consulting service.

“At some point, there is an investment a data center has to make to adopt outside air cooling, whether it is knocking out the back wall or putting in duct work that goes to all the air-conditioning units. There is some fixed amount of money that they will have to invest to be able to use that outside air. The size of the return on that investment is dependent upon how many hours a day and how many days a year they will be able to benefit from that,” says Parker. Phelps explains that those hours show up mostly

Key Points

- If the outside air meets several conditions, data centers should investigate using free air cooling. Conditions include 40- to 50-degree temperatures at night and 30 to 55% humidity at least 25% of the year.
- In many locations, outside air may need to be rehumidified to keep humidity within an acceptable range.
- According to data from consulting firm Stantec, free air cooling is most viable in the Southeast, Northeast, and Northwest portions of the United States.

during the seven to eight hours a day when the temperature drops at night.

“The target location should experience 40- to 50-degree (45 degrees Fahrenheit is ideal) outside air temperatures. The more often those temperatures are reached, the greater the potential for outside air use,” Parker says. Given these criteria, Parker concludes that free air cooling is viable in the Southeast, Northeast, and Northwest portions of the United States.

“In the U.S. Southeast, there are only three to four months a year where it would be typical to have those temperatures at night,” says Parker. But, Parker says, it is possible to use outside air in the Southeast as little as 25% of the time, even if rehumidifying is required, and still achieve a cost savings for the data center.

In the Northeast, optimal temperatures are available six to eight months out of the year; in the Pacific Northwest, they are available about four months a year. “But, the desert Southwest offers only one month a year where the evening temperatures get below 50 degrees,” says Parker. Free air cooling is not viable for that area.

Acceptable Humidity Ranges

In many locations, outside air may need to be rehumidified to keep humidity within

an acceptable range. “If the humidity is way outside acceptable ranges, the data center will incur an expense to get it back into range again,” says Phelps. The acceptable range for data center relative humidity to avoid these risks is between 30 and 55%, per the ANSI/EIA/TIA 569 standard.

“If the humidity is too low, there is a high potential for static discharge, which could damage equipment. If the humidity is too high, moisture could condense on rack-mount equipment, although this is rare,” Parker says.

“Humidity issues depend on how the data center decides to use the outside air. By channeling the outside air into the air-conditioning units that are already installed, the data center can turn the chillers off and use the conditioners to maintain an appropriate humidity,” says Parker.

Data centers address humidity by routing outside air through the existing condensed air-conditioning units. Those units serve as the data center's means of humidity control for that free air. “If the data center is able to deliver 45-degree air (or whatever temperature air it can get), the units can reheat it, dehumidify it, or humidify it before it gets put out into the room,” Parker explains.

Tips For Implementation

When beginning to use outside air for cooling, SMEs should start by raising their data center operating temperatures. There's much debate over this issue, but Gartner's Kumar, for example, recommends raising the temperature incrementally and only to 70 degrees Fahrenheit. “The best solution is to make sure the equipment is certified to run at the higher temperatures,” says Kumar.

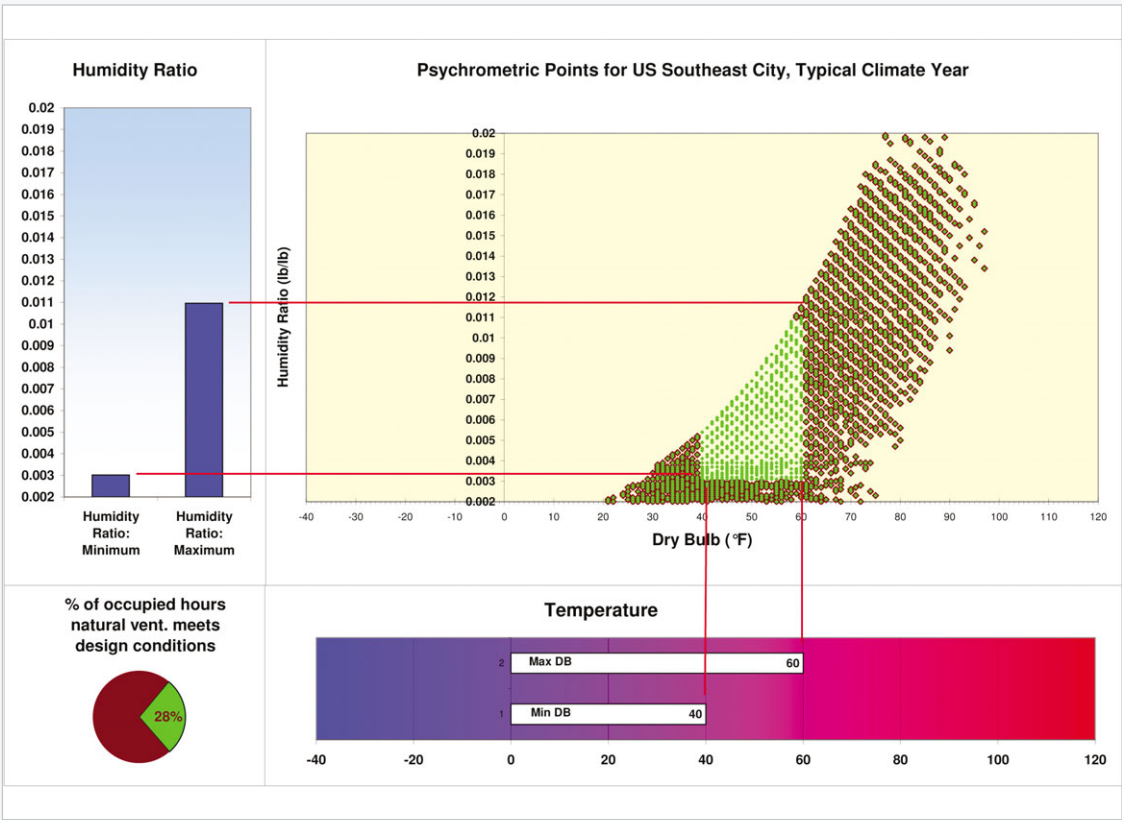
Data center engineers should direct outside air through filtration systems to prevent pollution. They do not want air with dirt, debris, or sand hitting the equipment, which could create issues with the hardware, Kumar notes. Data centers install those filters on the side of the building where the cold aisles begin, and they use the fans on the other side of the building at the ends of the hot aisles. “The cold air is drawn in through the filters, heats up as it is drawn through the computer equipment, and is expelled by the fans,” explains Eur van Anandel, owner of FiwiHex, a developer of fine wire heat exchangers in the Netherlands (www.fiwihex.com).

If data center engineers are going to humidify the air, they should run it through the filters first, which they install on the walls where the air is let in. Then, they should duct it into the air conditioners (which would condition the air, not cool it), and then let it into the room. ■

Can Your Data Center Use Free Cooling?

The light green area represents an intersection of the humidity and temperature ranges expected 25% of the time in a representative city in the U.S. Southeast. This intersection is a window of opportunity that would support outside air use for data center cooling. Even if some rehumidification was necessary, outside air could still be used in this area during this window at a cost savings, explains Matthew T. Parker, a project manager at consulting service Stantec. The graph, which illustrates geographic climate differences, could aid data center engineers in quickly evaluating whether to use outside air to save energy, Parker adds.

GRAPH COURTESY OF THE ENERGY SOLUTIONS GROUP, STANTEC. THE DATA IS BASED ON CWEC (CANADIAN WEATHER FOR ENERGY CALCULATIONS) WEATHER DATA.



Hosting: Decisions On Location

Local Or Far Away? Weighing The Pros & Cons

by Carmi Levy

JUST BECAUSE YOU’VE DECIDED to go with a hosted data center doesn’t mean you’re finished making major decisions. Now you have to decide whether the site should be local—or at least close enough to allow regular site visits—or farther away for disaster preparedness purposes.

It’s a business-critical decision and one that demands a solid understanding of your business goals. Basic physics comes into play, too.

“It’s a pretty simple equation, really,” says Brent Gillentine, director of operations for S3 (www.s3.com), an Austin, Texas, company that processes stock market data in real time for most of the major Wall Street financial services. “You want the least amount of data to travel the least amount of distance. When data moves over distance, it impacts both time and money, two things you want to avoid.”

Please Don’t Squeeze The Server

Distance also affects that sense of control that many IT professionals covet.

“Ideally, you’d love to have all of your hardware colocated with your business so you can lay hands on it yourself without having to rely on a contractor,” Gillentine says. “Nobody cares about your data and your business as much as you do.”

But this kind of control comes with a cost, too.

“I’m not sure who coined the term ‘server hugging,’ but I think that is an excellent description for the desire of IT managers to keep their equipment close to their headquarters,” says Tom Deaderick, OnePartner’s director of business development (www.onepartner.com). He adds that most organizations begin their search for a hosted data center within 60 to 100 miles of their headquarters.

“This first decision eliminates many data center choices that might provide superior service and capabilities to the few that are close at hand,” Deaderick says. “So right out of the gate, highly qualified data centers are removed from consideration simply because they aren’t close enough to the organization’s offices.

But Is It Reliable?

As important as location is, reliability matters even more. Tom Deaderick, director of business development for OnePartner (www.onepartner.com), says a better-provisioned facility located farther away is almost always a safer bet than a local data center with less-advanced infrastructure.

“A convenient data center is not as important as a reliable data center,” he says. “I’ve maintained hosting environments that were 300 miles away from our office and never felt constrained by the distance. Remote management tools are very powerful and allow client operations staff to do installs, hard power-off, and virtually everything they could do if the equipment were onsite.”

Many mediocre data centers get business just because they were close at hand.”

The evolution of advanced remote management tools and hosting providers that deliver a broad range of hands-on services on behalf of clients means IT teams no longer need to go onsite as often as they used to. Beyond toolsets, location decisions should also factor in who owns the equipment, who manages it, and how they plan to manage it.

“It inevitably comes down to the basics,” says Brett Jaffe, president of IT4 (www.it4yourbusiness.com), a Boston-based IT services company. “If you own the equipment, you want it local with failover elsewhere. If a provider is providing you with a customized solution for your company and delivering your technology as a service, they need the data center local to them. This does not necessarily mean it needs to be local to you.

“If a national provider is granting services, the location may be irrelevant, as they most likely have staff engineers onsite at the data center,” Jaffe says. “The decision should thus not be based on location but rather what services will be offered, how much you need the data center tailored to your company, and what your tolerance is, if any, for downtime.”

With that in mind, Jaffe says companies that require Tier IV data centers and acceptable data recovery models may be prime candidates for moving their entire service into the cloud.

Don’t Forget Human Factors

For organizations still wary of the performance and convenience limitations of remote hosts, local providers continue to have their advantages—many of which are human-focused.

“If the relationship requires touch points, sit-downs, walk-throughs, and the like, a local host allows you to work through issues and create a more hands-on partner approach,” says Andy Balazs, vice president of enterprise technology, advancement infrastructure, and operations for Antares Management Solutions (www.antaressolutions.com).

Moreover, just because it’s far away doesn’t necessarily mean it’s properly redundant. A company based in Florida, for example, would want to think twice before selecting a remote site along the Gulf Coast, as both the company offices and the remote data center would be similarly vulnerable to hurricane strikes.

“Geography matters more than distance,” says Jamie Brenzel, CEO of Data

Key Points

- **Focus on geography as much as distance.** Avoid locating remote data centers in regions likely to be hit by the same disasters that can affect your headquarters.
- **Don’t be a server-hugger.** Remote management tools and full-service providers are making it easier to provision completely hands-off data centers.
- **Fit matters.** Going with a provider you trust matters more than the precise location of its data center. Don’t compromise relationship for location.

Deposit Box, an online backup and storage provider (www.datadepositbox.com). “If a business is located in an area in which natural disasters or other such threats are rare, using a local data center is probably OK. However, if the business is located in an area like South Florida, where hurricanes and even serious summer storms are almost expected every year, you’re taking a big risk.”

Going local demands similar critical thinking.

“Just because the data center is local doesn’t mean it’s going to have the same natural disaster propensities as your company does,” Balazs says. “A company might be in a flood plain valley, but if they can look up and see my data center several miles away, towards the top of a hill, that data center isn’t going to encounter the same flooding issues that my company does. So I’ll probably be pretty well protected from that potential flood disaster.”

Of course, a location-based decision can be rendered irrelevant if IT fails to consider quality and fit.

“Choosing a data center location for managed hosting is not as important as selecting a provider that meets your requirements for hardware, service, network, flexibility, and reputation,” says William Toll, director of product management for NaviSite (www.navisite.com).

Comfort is another driver, and it means what’s right for one organization may not be right for another externally similar company.

“We’ve noticed over the years that some clients simply like to be close to their data—they feel more comfortable being able to visit the data center at will,” says Scott Thompson, CEO of the recently merged AmeriVault and NTG. “We also have clients 2,500 miles away that manage their infrastructure remotely.”

“Ideally, you’d love to have all of your hardware colocated with your business so you can lay hands on it yourself without having to rely on a contractor. Nobody cares about your data and your business as much as you do.”

- S3’s Brent Gillentine

IE8 Proves Best At Blocking Malware Web Sites

A recent report from NSS Labs shows that Microsoft’s Internet Explorer 8 Web browser is more than twice as effective at blocking “socially engineered” malware sites, or those that trick users into downloading malware, than Mozilla’s Firefox 3.0.7, the next-closest browser. According to the study, funded by Microsoft, the Release Candidate 1 of IE8 blocked 69% of the nearly 500 malware-distributing Web sites that NSS Labs tested. Firefox blocked 30% of the sites, while Apple’s Safari 3 (24%), Google’s Chrome (16%), Opera 9.64 (5%), and IE7 (4%) followed. NSS Labs states that Opera and IE7 “provided virtually no protection against malware.”

iPhones Comprise Half Of U.S. Mobile Web Use

Apple’s iPhone is responsible for about 50% of mobile Web traffic in the United States and about a third of mobile Web traffic



worldwide. That’s according to a study from mobile advertising company AdMob, which looked at data from more than 6,000 publishers. The study showed Research In Motion in second place, with its BlackBerry platform garnering 21% of the U.S. market, and Microsoft in third, with 13% of mobile Web traffic going to its Windows Mobile platform. Also of note is Google’s fairly new Android platform, which cornered 5% of the market.



Top Google Execs Continue \$1 Salaries, Skip Bonuses

Since the company went public in 2004, Google CEO Eric Schmidt and co-founders Larry Page and Sergey Brin have each received an annual salary of \$1, and this year is no exception. The search giant’s top executives announced they will once again take \$1 salaries and pass up the bonuses and stock options offered to Google’s employees, meaning their income directly depends on the health and profitability of the company. Page and Brin each own about 29 million shares in the company, and Schmidt owns about 9.5 million shares.

SMEs Turning To SaaS

A recent Microsoft survey of more than 600 Small Business Specialist partners in the United States, UK, Canada, France, and Brazil shows that 20% more small and mid-sized businesses will adopt SaaS this year. According to the latest trends, Microsoft’s partner program for Online Services is growing at a rate of 100 partners a week. The survey also revealed that about 50% of respondents say virtualization and IT consolidation are effective cost-cutting measures.

Fiorina To Lead Technology Policy Institute

Carly Fiorina, former CEO and chair of HP, will lead the board of directors for the Technology Policy Institute in Washington, D.C. Fiorina's accomplishments include leading HP through the dot-com bust in the early part of this decade and overseeing the successful merger of HP and Compaq. She serves on the boards of several other organizations and has announced she is considering a Senate run in 2010. The Technology Policy Institute is an organization that focuses its attention on technological change, the economics of innovation, and related regulation in the United States and around the world. It aims to produce research that advances knowledge and keeps policymakers up-to-date on the issues affecting IT and communications policy.



Mobile Broadband Use On The Rise

According to a new study from advisory and consulting firm Ovum, mobile broadband sales will perform well during the next five years. The study reports that annual mobile broadband sales revenue is expected to grow to \$137 billion in 2014, compared to just \$24.9 billion now. More than 2 billion people worldwide will use mobile broadband by 2014, Ovum reports. Despite the rapid user growth, Ovum predicts that average revenues per user will decline: The firm expects revenue to grow at 44% of the rate of user growth.

IBM Seeks Patent To Quantify Outsourcing

IBM recently filed a patent application that seeks to mathematically quantify the benefits of outsourcing. The patent application discusses the need to assign values to a broad set of variables that should affect a



company's outsourcing decisions more than simple cost analysis. It mentioned such variables as language fluency of the population, the cost of labor, economic stability, the cost of living, the infrastructure already in place, the national currency, the disparity in time zones, and the political and legal systems in effect. Despite the difficulty of assigning numeric values to some of these concepts, the company believes all are important considerations in the decision to outsource.

Oracle Plans Relsys Acquisition

In a move aimed at strengthening its relatively new health sciences global business unit, software giant Oracle announced it plans to acquire Relsys, a maker of drug safety and risk management software for the pharmaceutical industry. The acquisition, which is set to close in June under undisclosed financial terms, is one of a string of purchases Oracle has made recently as it aims to extend its business into new markets such as insurance, construction, and utilities.

Fix What's Broken With Backup

Regain Trust In Your Enterprise's Data Protection Strategies

by George Crump

• • •

MENTION THE TERMS backup and recovery, and you are almost assured a grimace or roll of the eyes from even the most organized IT administrator. Certainly data protection is nothing new, and there have been some improvements, but the overall consensus is that it can't be trusted. Why is this the case, and what can be done about it?

Too Much Data

Probably one of the biggest reasons that data protection is still such a challenge is the ever-increasing amount of data that is being stored on today's servers. "Data protection is broken today because organizations continue to back up all their data, all the time," says Mike Ivanov, vice president of marketing at Permabit Technology (www.permabit.com). "While data deduplication has made disk backup more practical, most of these new data protection techniques do nothing to address the real problem—that the majority of data on primary storage has not changed and, as a result, customers are backing up the same data over and over again."

This translates into a recovery problem: Too much data needs to be restored, and restores are always slower than backups. A read is faster than a write, and because most data is being restored to a RAID 5 or 6 protected volume, parity bits also need to be calculated and written.

"The first part of the solution," Ivanov says, "is to be smarter about where you store your data. If the data has become static and is no longer changing, why treat that data the same way you would treat your active data?"

Moving this data to a disk-based archive solution ensures it's still readily available for user needs, legal discoveries, or research. "Users should use the 80/20 rule, where in general about 80% of data is no longer active

and could be migrated from expensive performance-focused primary storage and on to cost-effective, capacity-focused secondary storage," Ivanov says.

Additionally, archiving of the static data would have a dramatic reduction in the backup window and the investment in additional disk or tape storage for the backup process. In addition, it reduces the amount of data that needs to be replicated to a disaster recovery site. Most importantly, the recovery effort is now faster and simpler because only the active working set of data needs to be restored.

"If the disk archive technology leverages deduplication and compression, its capacity can be optimized further, driving the cost per gigabyte to less than \$1. This makes archiving a much better investment than continuing to buy more expensive primary storage," Ivanov says.

Concentrate On The Active Data Set

With the old data out of the way, a user can concentrate on protecting the active data set—the data that really matters. With the size of this data reduced because of the archiving effort and with technologies such as deduplication, enterprises can cost-effectively employ a disk-based protection strategy.

Ed Reidenbach, senior director of product management at Data Domain (www.data-domain.com), says, "Tape-based technology, at least to be counted on as a 'first responder' to a recovery need, is where most of the heartburn is felt by the SME IT personnel, and it is where many recovery efforts fail."

Many IT personnel agree, as disk-based backup targets are in high demand. The challenge is purchasing enough disk to hold

Key Points

- Data protection is broken because of the amount of data to be protected; reducing the size of the data set will almost always increase the reliability.
- Recovery needs to be looked at from a tiered basis: what needs to be recovered in minutes, hours, or days.
- Fixing data protection will require the holistic application of archiving, disk-based backup, and snapshot-based protection strategies.

replicate the backup data to another system, resulting in a nearly prestaged—from a data perspective—disaster recovery site."

In-Place Recoveries

Another option is to use a solution that makes backup tasks more like a snapshot. These technologies, also known as continuous data protection or near-continuous data protection, create an image of the server on a secondary storage system. With these solutions, only the changed blocks of information are moved across the network to the secondary storage. But unlike a normal backup, these images are stored in a usable native format: They are mountable and read-writeable, yet they remain nondestructive snapshots.

"Similar to adding disk to solve some of the reliability issues with tape, users should look to improve the other weak spots in the backup process: application performance and the network performance," says Harvey Tessler, senior vice president of marketing at SyncSort (www.syncsort.com).

"Application performance and network resources are problematic because of the load placed on them by traditional backup applications, especially during full backups. By using an architecture that intelligently tracks changed blocks (below the file system) with zero impact on the server CPU, you then

“Tape-based technology . . . is where most of the heartburn is felt by the SME IT personnel, and it is where many recovery efforts fail.”

-Data Domain's Ed Reidenbach

Tiered Recovery

Small to midsized enterprises need to take a practical look at recovery, ranking servers in terms of the amount of time an application can truly be down. Servers can typically be grouped into three broad categories in terms of time, but be aware that the type of disaster will also affect your planning:

- Servers that can have either no or virtually no downtime. These are the lifeblood of the organization and typically involve revenue generation (online order processing) or real-time services (911). This should be a finite number of servers in the environment and should utilize something beyond just backup, often a remote cluster or data replication with a warm standby server at the disaster recovery site.
- A much larger percentage of the servers will be adequately handled by a two- to four-hour recovery window. These are applications that, when down, the business slows down but does not stop. Email is a good example. For these servers, a standard process involving rebuilding the server and restoring the data is typically fine.
- Servers, such as reporting servers, that are needed but with no urgent need for recovery. With this class of servers, tape-based recovery is fine, and a recovery target of one to two days is typically more than acceptable.

a sufficient period of full backup data and daily backup data. Unfortunately, realizing the benefits of the recovery experience can be expensive. It's this problem that deduplication attempts to fix.

"Typically, data does not change much between backups; however, backup applications store each of these backups uniquely, making disk backup an expensive proposition. Data deduplication eliminates the redundant segments of data between backups, allowing far more backups to be cost-effectively stored on disk," Reidenbach says. "It also enables that data to be more effectively replicated to a DR site because, again, only the new compressed segments need to be replicated."

While backing up to a deduplication system can reduce backup windows and increase backup reliability, Reidenbach cites that the real advantage is in recovery. "Most IT managers don't live in fear of their backups not working; they lose sleep over the recovery not working. With a deduplication system, all or most of the backup data is now on a backup disk, where the speed to access it and restore data is improved greatly. Add to that the ability to automatically

allow the applications to perform at full capacity, put less strain on the network, and further improve the overall reliability of your data protection. Also, this architecture does not tax the client processor the way client deduplication does because changed blocks are already identified at the time of the snapshot, so there's no need to use lots of cycles to determine which blocks have changed."

This snapshot architecture and backup technology places data into a live and active file system, enabling in-place recoveries.

"With most backup techniques, a recovery involves moving data out of a proprietary backup format, copying it across the network, replaying potentially a day's worth of transaction logs, and then bringing the application back online. With application-aware near-CDP, you 'mount' the application data volume directly from the backup disk, without moving any data, and then restart the application in minutes. No data movement is required to recover. Also, because of the minimal impact of the backup process, backups can be performed more often (usually multiple times per day), similar to how standard snapshot technology works today," Tessler says. ■

THREE QUESTIONS

Using The Right Product For The Right Job

Rackmount Solutions Places Priority On Making Life Easier For SMEs

by Joseph Pasquini

SINCE ITS INCEPTION IN 2001, Rackmount Solutions has grown to become an industry leader in supplying data center racks, cabinets, and related hardware and accessories to IT and network operations of all sizes.

Deborah Petty, Rackmount Solutions’ president and CEO (972/272-6631; www.rackmountsolutions.com), talks about the Garland, Texas,-based manufacturer and its impact upon the SME environment.

■ **What are the biggest IT-related issues facing today’s small to midsized enterprise?**

Petty observes that many SME server rooms were, in fact, never originally designed and built to function in such a capacity. As a result, these areas often lack sufficient environmental controls.

“Our customers in this market segment are facing heat and cooling issues because many don’t have a dedicated ‘designed from scratch’ server room,” says Petty. “What was cool enough three years ago is no longer sufficient today as SMEs add equipment [or] change their configuration.”

■ **What should *Processor* readers know about your company’s products?**

According to Petty, Rackmount Solutions’ wide selection of air-conditioned server racks—available in an array of sizes and BTU ratings—offers precise solutions to SMEs. “We can make a cabinet specific to a customer’s unique needs because we offer eight different cabinet heights, four widths, and four depths,” says Petty. “Then we offer Rackmount A/C units in 4K, 7K, and 10K BTU, as well as side mount units as high as 20K BTU.

“For the customer who does not want an enclosed rack, or for those situations in

which cost is a real consideration, we provide the modular 10K BTU CoolCube that can be rack-mounted, stacked, [or] ceiling-mounted,” adds Petty. “It is an extremely versatile product with every accessory you would ever need to cool down a rack at a specific point as well as an entire room. And you can take it with you if your company moves to another part of town.”

Petty is currently working on bringing a new 28dB SoundProof server cabinet in from the UK and incorporating it into the U.S. market. “With some of their older buildings and smaller spaces, UK companies require a quiet rack for their server equipment, but you have the same issues here in the USA,” remarks Petty. “This product will solve it completely, and it also dissipates 7,000 watts of heat—the best of both.”

■ **What makes your company unique?**

“Our own ISO 9001:2000 certification is a central part of every sale—customer

service, quality products, and product innovation,” explains Petty. “We know our customers and provide items that make their life easier. We listen to them and make what they need, not what we tell them they need through slick marketing and ad campaigns.”

She continues, “Something as simple as a 19-inch rack standoff bracket can solve a network guy’s headache in three minutes. Most companies in our industry wouldn’t bother to have that in their SKU offering. There’s tiny margin; you don’t sell a ton of them. But when our customer needs it, he needs it, and he can get it from us.”

Petty is equally proud of Rackmount Solutions’ level of product quality, which she attributes to her company’s partnership with ISO-certified American metal manufacturers. “We believe quality is more important than price, although we are very conscious of that, as well,” says Petty. “It does not serve our customer well to sell him a product that is so flimsy or lightweight that he can modify it with a can opener.”

Petty concludes, “We have a less than 1% RMA [return merchandise authorization] return rate. That includes commodity items such as shelves, screws, [and] power strips. If it’s not a good, usable, and productive product for you—our end user—we don’t waste your time with it.”



THREE QUESTIONS

Real Virtualization Expertise

Fairway Consulting Can Help Design, Implement, Manage & Even Host Virtualization Solutions

by Daniel P. Dern

VIRTUALIZATION IS HIGH on many companies’ “learn more about” or “time to try” lists, but although some basic hypervisor software for computer virtualization may be free, the associated management tools and expertise are not.

One company offering help in compute, storage, and desktop virtualization solutions for the small to midsized enterprise market is Fairway Consulting Group (866/761-9990; www.fairwayconsulting.com). Ken Celecia is the director of sales at Fairway.

■ **What are the biggest IT-related issues facing today’s small to midsized enterprise?**

“The convergence of the financial melt-down [and] the credit market collapse, coupled with . . . the prospect of rising taxes, has forced SMBs to adopt the mantra of doing more with less this year,” says Celecia. “If an SMB’s IT infrastructure can be duct-taped together to preserve cash, that is what they will do until the economic malaise passes.”

And, says Celecia, virtualization offers IT a path to do more with less. “An un-virtualized environment is like buying a new refrigerator for each trip you make to the supermarket.”

■ **What should *Processor* readers know about your company’s products?**

Fairway’s products and services based on virtualization technologies are aimed at

helping companies respond to IT concerns such as increased performance requirements, growing data volume, disaster recovery, sustainability, and hardware end of life.

The primary products used by Fairway as the basis for its virtualization solutions come from four vendors: VMware, “where we are value-added consultants (VAC) and enterprise partners and certified trainers,” says Celecia; DataCore Software (where Fairway is a Gold partner) for SAN virtualization and thin storage provisioning; Pano Logic for “zero-client” desktop devices for virtualized desktop environments; and Novell PlateSpin for virtualization management. “We feel these are at the moment the best of breed in virtualization,” says Celecia. Other Fairway technology partners include Citrix, Microsoft, and Sun.

For companies that want to use virtualization but not host it themselves, Fairway offers an offsite hosted virtualization

platform. “We can virtualize a company’s entire environment—operating system, applications, dataset, and all—and drop it into our hosts. The company then manages their environment.”

Fairway’s services let companies get into virtualization without becoming or acquiring in-house expertise.

In addition to its virtualization offerings, “We have also done software development, designed data centers . . . there’s not much that we don’t do,” adds Celecia. “We have

a company. We will also handle the management of that environment if a customer wants vs. needing to hire somebody with VMware certification. And we will also do health checks on the systems, [such as] to see if it’s not optimized [or] provide recommendations on what to do to get the best results.”

Celecia continues, “We want to be a business partner to our clients—your ‘virtual Sherpa.’ I don’t want to be sitting across the table, metaphorically; I want to



Fairway consulting group

access to telephony experts and all hardware in the market.”

■ **What makes your company unique?**

“We specialize in the virtualization space,” says Celecia. “We sell professional services and consulting around virtualization and those platforms. We can design, architect, configure, install, test, document, and certify a virtualized environment for

be on the same side as the client, so they are getting value from the infrastructure and from us.”

With a successful virtualization practice for more than seven years now, Fairway is a strong believer in knowledge transfer, says Celecia. “We expect our clients to be present when we touch their infrastructure so we can answer questions and teach them what we have learned.”

OPINIONS

INFO-TECH • INSIGHT

Embrace Apple In The Enterprise

Until fairly recently, I wasn't the least bit inclined to own anything from Apple. I just didn't see the point. I had been a Microsoft user going back to my first 286 PC running DOS, and with the exception of playing with Linux on and off over the years, I hadn't seen the need to stray from what I knew and was comfortable with.

The truth is that my newfound infatuation with all things Apple started with the iPhone. I saw a 3G iPhone, played with it a little, and had to have one, so I bought one shortly after they became available. I love my iPhone (the novelty hasn't worn off for me), and between that and seeing elated colleagues carrying around their personal MacBooks at work, it got me thinking—I'd like one of those, too.

Searching For A Laptop

I had resisted getting a company-issued laptop for the longest time because I really didn't want to lug around a big boat anchor. I have a desktop in the office, one at home that gives me full access to all of my work applications and tools, and my personal laptop for occasional travel (Lenovo S10 netbook running OS X). The bottom line is that I thought the laptop would just end up tethered to my desk, so why not just keep my desktop?

I'm going to be working on a project that will require that I have two workstations, so the idea was to issue me a company laptop to move between my two desks as opposed to giving me two desktops. Fair enough, that seems logical to me. But I

MARK TAUSCHEK

AUTHOR Mark Tauschek is a senior research analyst at the Info-Tech Research Group and has more than 10 years' experience in the networking and telecommunications field. Mark co-founded a wireless network professional services firm, WFI/Vokal Wireless, and has also held senior management positions for Azonic Networks, AT&T Canada (MTS-Allstream), and Maxlink Communications.



- 12.1- or 13.3-inch screen (we'd consider 14.1 inches if it wasn't too heavy)
- 2.2GHz or better (preferably 2.4GHz) dual-core Intel processor
- 4GB of RAM
- Preferably 4 pounds or less
- At least four hours of battery life under "normal" use conditions (preferably five to six hours)
- Windows XP Pro, but we'd take Vista Business and downgrade if we had to

That was pretty much it. Give us quotes based on those requirements. We were floored by what we got back. To make a long story short, the prices were much higher than we expected. We looked at other vendors, and it was the same story across the board. To get an "enterprise-class" laptop that met our specs, we were looking at a minimum of \$1,400 up to well over \$2,000 on the high side.

Why Not Get MacBooks?

I threw a crazy idea out to our IT infrastructure manager: Why not get MacBooks? The cost would be \$1,699 to meet our specs, and Apple is known for the quality of its hardware. My idea was met with some resis-

tance—not because the manager is a Luddite or Windows bigot but because he was concerned with how he would manage and support Macs. Totally understandable, and I actually would have been somewhat dismayed if he hadn't been thinking about that.

I suggested running Boot Camp with Windows as the default OS, and that notion piqued his interest and at least got us thinking about if this is even doable. The truth is that tools and resources are available to have Macs play nicely in a Windows environment. We are going to try a small pilot and basically build an OS X image that will allow the MacBooks to join our Windows domain, use VMware Fusion to allow us to run Windows apps, and see if we can make this a workable solution.

My personal belief is that we will be able to make this work and that it'll be a win-win for all involved. The cost is in line with comparable laptops, our IT guys will get to build on their expertise, and the employees that get MacBooks will be thrilled and perceive it as a perk (even though it doesn't cost the company more money). Apple is becoming an increasingly viable option in the enterprise. If, like me, you hadn't previously considered Apple a viable enterprise solution, maybe it's time to give it some thought. ■

Send your comments to infotech@processor.com

The truth is that tools and resources are available to have Macs play nicely in a Windows environment.

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Featured Company

The Right Stuff

Stallard Technologies Provides The Equipment You Need, When You Need It

by Holly Dolezalek

IN ANY MARKET FOR HIGH-END equipment, there’s always room for preowned or refurbished merchandise. The market for workstations and servers is no different, and that’s the niche Stallard Technologies works in. The company sells primarily Dell equipment, including preowned and

when larger companies are looking for models that Dell doesn’t make anymore, they often come to Stallard. The company sells to end users, resellers, brokers, and even competitors, although most of its competitors have focused on other manufacturers’ products. Most of the company’s customers are in North America, although it sells overseas, as well. Its

enterprises that know the warranty is almost up and want to replace it or from companies that are going out of business.

Stallard stores its stock in an 18,000-square-foot warehouse, and the company also bought land next door for when it expands. When an order comes in, inventory employees pull all the parts for the order, reinstall everything, run diagnostics, load software, and set up any necessary RAID arrays. “We generally turn orders around in two days, although we can process for same-day shipping if need be,” Poje says.

Competition & Differentiation

Why does Stallard sell to its competitors? Due to the volume it moves, Stallard says that the company really doesn’t have many direct competitors; however, other companies that specialize in other manufacturers’ products the way Stallard does occasionally have customers that need to buy a piece of Dell equipment. So, the competitors come to Stallard while maintaining their own market niche. Stallard does the same, occasionally going to competitors to find an HP or an IBM product for a customer. “We do have competitors, but none of them have focused on Dell products,” Stallard explains. “We specialize in Dell because we know it the best.”

The company sets itself apart in other ways from the competition it does have.

company in the U.S. that could do that in the time frame we did it.”

At the prices his company offers, Stallard says, many customers can afford to buy some insurance product. “We have some data centers who save so much when they buy a rack of servers from us that they buy a couple of extra servers as hot spares,” he explains.

Extending Its Reach

Although Stallard isn’t looking to change its business model, the company is likely to expand into other product areas. Once Stallard feels that the company has its processes and knowledge completely in place with Dell equipment, the plan is to expand to other manufacturers, such as HP or IBM. But Stallard says that won’t happen



refurbished servers, storage, PCs, racks, server clusters, and other equipment to the small and medium-sized enterprise.

Although most of the products the company sells are Dell products, Stallard Technologies (877/851-2260; www.stikc.com) has no affiliation with Dell. It employs four Dell-certified technicians to service and support the equipment it sells, but officially, it’s not even a contracted reseller for Dell. But the company carries Dell 1U and 2U PowerEdge servers, Precision PCs and workstations, and hundreds of related accessories—power supplies, memory, rack accessories, rail kits, hard drives, and many others.

Above & Beyond

The privately owned company, which was founded in 2003 by James Stallard, still belongs to Stallard and employs 23 people at its Overland Park, Kan., warehouse and corporate headquarters.

Most of the company’s customers are from the small and medium-sized enterprise market, although a few sales come from the Fortune 500 segment. For example,

international business is not concentrated in any one region, although it has had good luck in Italy and in China.

So why would companies that want Dell products call Stallard instead of Dell? Because Stallard can often get the equipment to them more quickly than Dell can. “If you order a server through Dell, the soonest you’ll see it is a week plus, and you certainly can’t get one overnight,” says Phil Poje, CMO for Stallard. “But for a customer with a server down who needs one tomorrow morning, we can get it all ready in the afternoon and ship it overnight for the next morning.”

Almost all of the equipment Stallard sells is preowned, although the company occasionally gets deals on equipment that is new or has never been in service. But Poje explains that “preowned” doesn’t mean “fire sale”—Stallard carries the same models that Dell does currently. Occasionally, it buys models of servers or other equipment that Dell manufactured too many of, for example, and sells those over a period of a year. At other times, it buys servers or other machines from



Stallard currently specializes in Dell PowerEdge servers, such as the PowerEdge 850, 1850, and 2950.

A Sampling Of Stallard Products & Specs

Type	Model	Description	Price
1U	PowerEdge 850	1x dual-core 3GHz CPU 4GB RAM 2x 160GB 7,200rpm SATA hard drives	\$289
1U	PowerEdge SC1425 5-pack	2x Xeon 2.8GHz CPU 2GB RAM 2x 160GB 7,200rpm SATA hard drives	\$1,199
1U	PowerEdge 1850	2x Xeon 2.8GHz CPU 2GB RAM 2x 73GB 10,000rpm hard drives	\$349
2U	PowerEdge 2650	2x Xeon 3GHz CPU 2GB RAM 3x 73GB 10,000rpm hard drives	\$329
2U	PowerEdge 2950	2x dual-core 1.86GHz CPU 4GB RAM 3x 73GB 15,000rpm SAS hard drives	\$1,999

Many resellers sell their equipment the way they buy it, and Stallard estimates that there are only half a dozen companies that custom-configure the equipment they sell. Stallard is one of those companies. “Most companies resell their equipment with the same memory, hard drives, and processors, but we custom-configure all equipment we sell to the customer’s specifications,” Poje says. “When we remanufacture it, we take it through a 30-point inspection, reinstall the BIOS and the firmware, and double-check everything.” When it’s shipped, Poje says, the equipment is often selling for half the original price and is under warranty through Stallard for one year (or two or three, if the buyer is interested).

Between custom configuration and volume, the company doesn’t have trouble explaining its value proposition, Stallard says. “How many companies could sell you 15 or 20 or 100 units that have been configured identically?” he asks. “We had a customer order 200 of the same server where we configured all the servers the same way. I don’t think there’s any other

until the company is ready. “We want to do what we do really well before we start trying to do something else,” he says.

The company may also move into other types of custom configuration, possibly in the software or cluster market. Stallard envisions the company offering fully configured, tested server clusters to interested customers, although that, too, will come only in time.

In the storage market, Stallard is beginning to offer EMC products in addition to Dell. The company carries Dell storage products, such as the PowerVault 220 DAS, but it now also carries every model EMC has in stock. “We don’t have EMC products in the same quantities as we have Dell, but we’ve got a lot of EMC products on hand,” Stallard says.

Stallard emphasizes that there isn’t a catch here; the company just carries solid equipment that is reliable and supported at a competitive price. “Usually, they say, when it’s price, availability, and service, you can have two,” he says. “We’re trying to give all three.” ■

Featured Company

Untangling Cables

Snake Tray Helps SMEs Get Organized Without A Lot Of Hassle

by Sue Hildreth

FOR ROGER JETTE, CEO of Snake Tray, inspiration struck while he was staring at a tangled web of cables under the data center floor of a large financial services firm. Working as an independent sales rep for an IT equipment maker, he was tasked with helping to renovate the firm’s data center, and the cabling was one of the first issues that needed to be addressed. Unfortunately, that would mean installing many individual baskets, trays, and conduits under the floor and around the walls to route the cables—a fairly time-consuming job.

“I was looking under the floors and seeing a mess. I wanted a product that would control the mess, be lightweight, and not need a major infrastructure renovation to do it,” says Jette.

The traditional approach to sorting and securing cables is to use individual components such as metal baskets and trays to route the cable, with each basket or tray secured to the wall, floor, or ceiling with metal brackets.

Realizing how much work would be needed to install cable trays and baskets to hold all of his customer’s cables, Jette began to think seriously about how to create a cable-management system that was more “plug and play.” The result was Snake Tray’s (www.snaketray.com) flagship



product—a flexible wire tray with integrated mounting rings that could be cut and bent by hand and installed on the floor or suspended from the wall.

An Idea That Grew

That first product was the 101 Series Snake Tray for raised-floor data centers, which is designed for installation below a raised floor and as a riser along vertical surfaces.

“It was a grassroots product that I designed in my basement—your basic entrepreneurial product,” says Jette. He also did initial production in his basement

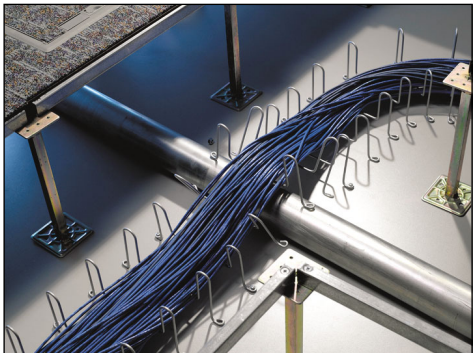
until the company had sufficient orders to warrant an office building and plant. Today, Snake Tray’s products are produced at the company’s headquarters in Bay Shore, N.Y.

It didn’t take long for Jette to start producing variations on the 101 Snake Tray, including models for ceilings or vertical wall installations; wider versions to accommodate bigger cables; and the Snake Canyon 301, which hooks onto the raised-floor support structure. Snake Air Airflow Managers were also added to provide a variety of options for routing cables through the walls or floors without letting out the chilled air.

Right From Home

Most of the ideas for designs, says Jette, come from his own desk, mainly because he remains interested in creating new products. He visits customer sites on a regular basis, flying to a different customer location nearly every week. Based on what he sees and hears from the customer, a new product design may result. In the case of the first Snake Air Airflow Manager, for instance, the customer had been looking at another vendor’s product but was put off by the price, so he turned to Snake Tray and asked if it had a similar type of product. Although Jette didn’t have something similar at that moment, he brought a working prototype to the customer for evaluation five days later. That led to a first order of 700 new Snake Airs.

That type of design and production turnaround is possible because Snake Tray does everything in-house rather than outsourcing it to a third party. “We’re a vertically integrated manufacturing entity, and everything happens inside the



The 101 Series Snake Tray installs below a raised floor or along vertical surfaces.

contact

Snake Tray
(800) 308-6788
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- Snake Tray provides cabling solutions that are hand-bendable and able to fit a variety of configurations.
- The company also offers airflow management and power distribution products.
- “We’re a vertically integrated manufacturing entity, and everything happens inside the building. So if I want to make something, I go down and make it,” says Snake Tray CEO Roger Jette.

building. So if I want to make something, I go down and make it. We don’t ship anything to China to be built,” Jette says. “By doing it that way, we can have a turnaround for a new design of a week or so if necessary.

Although outsourcing may be a popular approach for many manufacturing companies these days, Jette believes it can be an obstacle to providing fast customer service. “You can’t deliver if you’re depending on other people. If your customer is in trouble, and the part is six weeks late coming from China, there’s nothing you can do,” says Jette.

Meeting Demand

Despite the stagnant economy, Jette says sales at Snake Tray are still doing well. One fast-growing product line is the Mega Snake, which is designed to hold more cables than the original Snake Tray. The high-capacity Mega Snake comes in 12-, 18-, and 24-inch widths and can support up to 1,500 cables. “Because cable sizes are getting bigger, we’ve seen a demand for larger trays,” Jette notes.

Power distribution products, which help data center managers create more efficient energy distribution configurations, are another area of particularly fast growth in today’s small to midsized enterprise marketplace. Snake Tray introduced the Snake Bus Power Distribution solution, a prewired bus track with plug-in electrical whips that can be combined with the Snake Connect distribution boxes to create a plug-and-play wiring system for power and data connections.

The Snake Bus, intended for use under raised floors, has a unique wiring design, which produces less of a drop in voltage compared to traditional copper wiring, according to the enterprise. That, in turn, reduces the overall energy consumption throughout a building. “It helps save on labor by reducing complexity,” says Jette. “And the building owners are getting cheaper, cleaner buildings.”

To cater to the desire for greener products, Snake Tray has focused on using more recycled materials in its products and on using more environmentally friendly coatings. The Snake Bus, for example, is constructed of 75% post-consumer recycled products. And Jette notes that it is also environmentally friendly in that customers can easily reuse the Bus, or any of the Snake Tray products, rather than throwing them out and getting new versions. The flexibility of the product makes it adaptable to new data center configurations.

To cater to the desire for greener products, Snake Tray has focused on using more recycled materials in its products and on using more environmentally friendly coatings.

Snake Tray Products	
Snake Tray	The 101 Series Snake Tray is designed for installation below a raised floor and as a riser along vertical surfaces. It comes in seven sizes and can accommodate up to 860 data cables.
Snake Race	The Snake Race is a mini cable manager that can handle up to 75 CAT 6 cables. It has mounting rings that run along two planes to allow for multiple mounting configurations.
Snake Air Airflow Managers	The Snake Air Airflow Managers for access floors, network switches, and equipment racks are designed to maximize temperature control within the data center environment.
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Snake Canyon	The Snake Canyon is a modular cable tray system that easily integrates with the existing elements of a raised floor to create an under-floor cable management solution.
Power Snake Canyon	The Power Snake Canyon is an under-floor cable tray with an integrated power module built-in. The system delivers the power from the main distribution panels to the enclosures quickly and efficiently.
Mega Snake	The Mega Snake is a high-capacity cable tray system that comes in 4- or 6-inch load depth and widths from 12 to 24 inches and can support up to 1,500 cables.

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PHYSICAL INFRASTRUCTURE



PRODUCTS SOLD:

- Office Pro Portable Air Conditioner Series for indoor environments such as server and telecom rooms or offices
- Classic & Classic Plus Portable Air Conditioner Series for moisture removal, outdoor and industrial spot-cooling applications
- CM12 ceiling-mounted air conditioner for cooling small server rooms or telecom closets

The MovinCool division of DENSO Sales California has been responsible for pioneering the use of portable air conditioning solutions for a wide variety of North and South American markets since 1982. The rugged design of its Classic Series reflects the harsh industrial environments the original MovinCool portable air conditioner systems have survived in for more than two decades.

MovinCool works closely with a nationwide network of specialized regional distributors and national catalog suppliers to provide sales, installation, and rental of portable air conditioner and portable dehumidifier solutions.

(800) 264-9573 | www.movincool.com

PHYSICAL INFRASTRUCTURE



PRODUCTS SOLD:

A complete line of PDUs, including:

- Metered
- Basic
- Switched

Established in 2008, PDUdirect.com is an online wholesaler providing a select line of PDUs for server and networked environments. PDUs Direct's basic, metered, and switched Rack PDUs provide local and remote power management, power monitoring, and environmental monitoring. PDUdirect.com offers a high level of service and quality products at the most competitive pricing available, with orders shipped within 24 hours.

Lowest Cost.
Fastest Shipping.
Industrial Grade Quality.
Easy To Buy.

(888) 751-7387 | pdudirect.com

PHYSICAL INFRASTRUCTURE




PRODUCTS SOLD:

- Server racks and cabinets (including sound proof, air conditioned, and large cable bundle racks)
- Wallmount racks and cabinets
- Desktop/tabletop portable racks
- Shockmount shipping cases
- Computer classroom training tables
- Bulk cable

Rackmount Solutions' mission is to listen to the IT engineer's specific needs and deliver superb-quality, high-performance products through continuous product innovation and operational excellence. We pride ourselves in providing quality customer service, products that fit your IT requirements, and solid value for your money. Our IT sales staff is salaried, so you'll never be encouraged to purchase a product to meet a quota. Our ISO 9001:2000 certification is based on 99.6% on-time deliveries and 96% measured customer satisfaction rating. Compare that with your other vendors!

(866) 207-6631 | www.rackmountsolutions.net

PHYSICAL INFRASTRUCTURE



PRODUCTS SOLD:

A complete line of cabinet PDUs, including:

- Per Outlet Power Sensing (POPS) PDU
- Rack Mount Fail-Safe Transfer Switch
- Console Port access with remote power management
- Switched PDU
- Smart PDU
- Metered PDU
- Basic PDU
- 48 VDC PDU

Server Technology is committed to the PDU market with the largest group of engineers dedicated to power distribution and other solutions within the equipment cabinet. With an extensive line of both AC and DC PDU products and several fail-safe transfer switches, Server Technology provides a one-stop shop for all cabinet PDU needs. Recent advancements in device power monitoring help data centers monitor and improve their efficiency. Continuous research and development is fueled by computer and service providers that look to Server Technology for their custom cabinet power solutions.

(800) 835-1515 | www.servertech.com

PHYSICAL INFRASTRUCTURE



PRODUCTS SOLD:


- Cleanrooms
- Enclosures
- Strip doors
- Curtains

Since 1979, Simplex Isolation Systems has been setting new design standards in modular expandable cleanroom components, isolation curtains, hardware, and new product development. When it comes to meeting your needs for a clean, safe, energy-efficient environment, look to Simplex for endless construction possibilities.

Fontana, Calif.,-based Simplex's unique strip doors and mounting systems are designed for quick installation. Simplex parts and materials perform with optimum efficiency, last longer, and save you money. And at whatever level you use Simplex products, you are always backed by industry expertise, product knowledge, and the best warranties in the cleanroom and process isolation market.

(877) 746-7540 | www.simplexisolationssystem.com

PHYSICAL INFRASTRUCTURE



PRODUCTS SOLD:

USB and Wi-Fi versions of the Temperature@lert device, which monitors data center temperature, alerts you to problems, and takes corrective action as needed.

Boston, Mass.,-based Temperature@lert manufactures products that are designed to be as simple as possible in order to provide the most reliable temperature monitoring for your IT equipment.

Unlike other big names in the environmental monitoring space, Temperature@lert has been growing at a steady, measured pace, which allows it to exceed customer expectations in terms of product quality and support. Temperature@lert's customer support staff is composed only of members of its product engineering team, ensuring superior support. Temperature@lert has cultivated the trust of some of the largest organizations in the world, including Boeing, NASA, and Coca-Cola.

(866) 524-3540 | www.24sensor.com

PHYSICAL INFRASTRUCTURE



PRODUCTS SOLD:

A line of products designed to solve heat-density problems in data centers, including:

- Blanking panels
- Raised floor grommets to seal cable openings
- Temperature strips

Founded in 2001, Upsite Technologies has established itself as a leader in the rapidly growing marketplace for high-availability data center solutions, specifically concentrating on hot spots and energy-efficiency issues. Upsite has successfully developed a suite of groundbreaking products designed to increase the reliability and availability of data centers, while significantly reducing energy costs. Upsite manufactures products and services dedicated to the diagnosis and cure of heat-density problems in data centers. Upsite founder Kenneth G. Brill recognized a need for products and solutions reaching far beyond the scope of standard engineering and consulting offerings. He utilized his visionary understanding of the technology to create these products and solutions, which provide data centers with unprecedented, substantial benefits.

(505) 982-7800 | www.upsite.com

NETWORKING & VPN, SECURITY, STORAGE




PRODUCTS SOLD:

- Spam and spyware protection
- Email archiving
- Data backup and disaster recovery
- Content filtering and application blocking
- Firewalls
- Link and load balancing
- SSL VPN

Campbell, Calif.,-based Barracuda Networks strives for exceptional customer service, top-notch products, and engaging partner programs. Companies and organizations rely on Barracuda products because they're easy to deploy and use, don't require IT expertise, and come with automatic updates. In addition, Barracuda does not charge per-user, per-port, or per-server licensing fees, making its products among the most affordable. As a customer, you'll be backed by Barracuda Central, an advanced 24/7 security operations center that works to continuously monitor and block threats. Plus, you'll have access to specially trained Barracuda support technicians 24/7.

(888) 268-4772 | www.barracuda.com

NETWORKING & VPN



PRODUCTS SOLD:

The vSMP Foundation, which lets you aggregate multiple x86 systems into a single virtual x86 system.

ScaleMP is the leader in virtualization for high-end computing, providing higher performance and lower TCO. The innovative vSMP Foundation aggregates multiple x86 systems into a single virtual x86 system, delivering an industry-standard, high-end symmetric multiprocessor computer. Using software to replace custom hardware and components, ScaleMP offers a new, revolutionary computing paradigm. vSMP Foundation is a software-only solution that eliminates the need for extensive R&D or proprietary hardware components in developing high-end x86 systems and reduces overall end-user system cost and operational expenditures. vSMP Foundation aggregates up to 16 x86 systems to create a single system with four to 32 processors (128 cores) and up to 4TB of shared memory.

(408) 342-0330 | www.scalemp.com

STORAGE



PRODUCTS SOLD:

Disaster recovery and virtualization products, including:

- Storage
- Server
- Desktop

Fairway Consulting Group, founded in 2002, was created to help enterprises navigate the types of service deployment, technology purchasing, and staff training that virtualization demands. Although Fairway Consulting Group's principle focus is VMware, the overall solutions are robust enough to incorporate any virtualization technology. Fairway offers advice on different kinds of virtualization, including storage, server, and desktop, as well as disaster recovery, and specializes in the design and integration of virtualization systems. As a channel partner with several leading virtualization product manufacturers, Fairway Consulting helps small to midsized enterprises focus on issues of sustainability, explosive data growth, increased performance demands, end-of-life hardware, and disaster recovery.

(866) 761-9990 | www.fairwayconsulting.com

CLIENTS



PRODUCTS SOLD:

Text retrieval products, including:

- Desktop With Spider
- Network With Spider
- Publish For CD/DVDs
- Web With Spider
- Engine For Win & .NET
- Engine For Linux

Maryland-based dtSearch started research and development in text retrieval in 1988, and the company released the first application in 1991. In addition to its ability to quickly search a large amount of text, dtSearch offers built-in proprietary file format support and converters. The company is known for speedy adoption of new programming standards, new operating systems, and new file types. Plus, it has a flexible licensing model that doesn't involve per-document and other arbitrary limits. Typical corporate use of the dtSearch product line includes general information retrieval, Internet and intranet site searching, access to technical documentation, and email archiving and email filtering.

(800) 483-4637 | www.dtsearch.com

EQUIPMENT DEALER



PRODUCTS SOLD:


A complete line of new and certified refurbished servers, networking, storage, and telecommunications hardware and services from:

- DEC
- Compaq
- HP
- Nortel
- Sun Microsystems
- Extreme

Since 1987, Compurex Systems has been a leading provider of new and used computer hardware. From systems and storage, network applications and peripherals, to service and repair, Compurex Systems has sought to be a one-stop source of technology. Compurex Systems has maintained its position on the forefront through competitive pricing, rapid delivery, quality product, and attention to detail and customer service. At Compurex Systems, we look to make long-lasting relationships with our customers and suppliers, and we are driven by the concept of dependability. Our customers return because they know they can trust us.

(800) 426-5499 | www.compurex.com

EQUIPMENT DEALER



PRODUCTS SOLD:

Networking and security hardware from:

- HP
- Aruba Networks
- Barracuda Networks
- F5 Networks
- Coyote Point
- Extreme Networks
- Cyberoam

Founded in 1988, CCNY (Computer Connection of Central New York) is a system integrator and reseller of IT networking and security hardware. We have the knowledge and product base to increase the security posture and enhance the efficiency and capacity of your network. We are able to design, configure, and implement custom solutions to fit your network architecture using the latest hardware-based technologies.

CCNY maintains a large inventory of systems and components, tested and ready for same-day shipment. In addition, we provide one of the longest warranty periods in the industry.

(800) 566-4786 | www.ccny.com

EQUIPMENT DEALER



PRODUCTS SOLD:

A complete line of data media, including:

- DLT
- SuperDLT
- LTO
- AIT
- QIC

The Data Media Source is your best source for discounts and deals on all formats of data media products, including DLT, SuperDLT, LTO, 3480, 3490e, 3590, 3570, TK50, 4mm-DDS, 8mm, AIT, QIC, 9-track, and more. We have a huge inventory of all brands, categories, and capacities at prices below wholesale.

We buy up excess inventories, closeouts, and returns and offer our resellers pricing below the direct manufacturers on most items, making every order you place with us more profitable for you. If we have it—and we probably do—we will save you money and boost your income. Our 20+ years in the business of selling only data media gives us the experience and resources to make every order you place with us more profitable for you. We exist to help you sell more volume at higher profit margins.

(800) 252-9268 | www.datamediasource.com

EQUIPMENT DEALER



PRODUCTS & SERVICES:

Equipment disposal services, along with a complete line of used and refurbished equipment, including:

- Communications and networking
- Laptops
- Monitors
- Point of sale
- Servers
- Storage
- Telephone and PBX

For more than 13 years, DMD Systems Recovery has been offering new and refurbished computer equipment and services. We are able to provide exceptional value and quality to our customers because of our experience in procuring high-quality equipment and our technical support experience in a rapidly changing technical environment.

DMD also provides services for organizations wishing to find a cost-effective and environmentally safe solution for disposing of computer and communications equipment. Our dedicated staff can handle all aspects of your equipment disposal, from logistics to reporting, allowing you to get back to your business.

(877) 777-0651 | www.dmdsystems.com

EQUIPMENT DEALER



PRODUCTS SOLD:

For Resellers Only

- Laptops
- Computer systems, peripherals, and accessories
- Networking products
- Hard drives
- Motherboards
- RAM/memory
- Monitors

Evertek is one of the world's largest wholesale distributors of excess computers, peripherals, consumer electronics, and computer accessories. Founded in 1990, Evertek specializes in selling quality excess, discount, clearance, and close-out computer and electronics equipment at aggressively discounted prices. Evertek services more than 200 countries worldwide and attributes its steady growth to working closely with its wholesale customers, offering same-day shipping, full warranties, technical support, and more! Additionally, Evertek focuses on building long-term relationships with its vendors, which include nearly all of the top-named manufacturers worldwide. Become an Evertek wholesale customer today at www.evertek.com/signup!

(760) 639-4500 | www.evertek.com

EQUIPMENT DEALER



PRODUCTS SOLD:


Digital Equipment Corp. parts, products, and systems, including:

- Memory
- Storage
- Processors
- Display and video
- Printers
- Cables
- Repair
- Lease and rental

(888) 332-7278 | www.decparts.com

IGS is the world's largest independent manufacturer and source of supply, service, and depot repair of obsolete Digital Equipment Corp. parts, products, and systems. At IGS, we maintain an extensive inventory of DEC parts and equipment. Some date from as far back as the 1960s. We refurbish and service these parts, adding current technology when applicable. Our multimillion-dollar inventory and worldwide sourcing expertise enable us to fulfill your requirements rapidly and cost-effectively. We provide quality products, on time, at highly competitive prices coupled with unparalleled service. We provide Advance Replacement Service within 24 hours if we have the item in stock and, with 75,000 stock items, chances are we will.

EQUIPMENT DEALER



PRODUCTS SOLD:

We buy used cell phones, including:

- Motorola
- Nokia
- Samsung
- BlackBerry

(800) 248-5360 | www.pacebutler.com

With global cell phone use skyrocketing, enterprises worldwide have a need to reduce the number of those old phones ending up in landfills. The toxic and persistent materials in cell phones, including lead, arsenic, and beryllium, have a negative and long-lasting impact on our environment, groundwater, and even local workers.

PaceButler has one simple purpose: We buy used cell phones. And the Edmond, Okla.,-based company makes cell phone recycling easy. PaceButler contributes to the local and world-wide community by providing top-quality products and service. It is dedicated to customer satisfaction through constant improvement of systems and procedures and an atmosphere that's positive, successful, and healthy.

EQUIPMENT DEALER



PRODUCTS SOLD:

We buy, sell, and service:

- Point-of-sale equipment
- Barcode equipment
- Laser printers
- Wired and wireless networking equipment

(800) 856-2111 | www.pegasuscomputer.net

In 1987, Pegasus Computer Marketing started providing mainframe products to the end-user market. What began as a sales-only organization soon adapted to offer in-house repair and refurbishment. During the past 10 years, Pegasus has focused primarily on the point-of-sale and barcode industries, buying, selling, and providing service contracts for anywhere from a few scanners to hundreds.

Pegasus recently added a third technical repair center, so it has separate repair stations for multiple types of equipment. Pegasus believes in providing quality repairs, timely service, and excellent customer service. Its employees put 110% into all their work. And, Pegasus stands behind each and every job, so you never have to worry about service after the sale.

EQUIPMENT DEALER



PRODUCTS SOLD:





Products Sold:

- Servers
- Storage
- Workstations and PCs
- Racks and server clusters
- Parts and accessories

(877) 851-2260 | www.stikc.com

Stallard Technologies specializes in buying and selling quality preowned and refurbished Dell, Compaq, IBM and HP servers and workstations. At Stallard Technologies, we are your personal shoppers. We work aggressively to find the best available values on business networking hardware, so you can accomplish your networking goals effectively, efficiently, and under budget. We deal strictly with reliable vendors and top-quality products and will make sure you are getting what you expect—no surprises. At Stallard Technologies, we have our own staff of trained and qualified technicians that manage complete diagnostic checks on all our products. When products pass, they get the Stallard Technologies seal of Approval and Warranty.

Some Machines Defy Obsolescence...



In an age of planned obsolescence, **some machines** are worth preserving, restoring, and updating. At IGS Systems, that is exactly what we do for your **DEC® Alpha & Storageworks applications.**

- Refurbished and Remanufactured Hardware / Software
- Repair/Exchange Services
- End of Life Support
- VAX / Alphaservers & Workstations
- Migration Service
- VAX to Alpha Migration
- VMS to NT Migration
- Alpha to Intel Migration
- Alpha / NT to Alpha/Linux Migration
- Enterprise Computing Services
- Storage Area Network Design, Configuration and Integration
- Enterprise Backup and Storage Management Solutions
- VMS Cluster Design and Implementation

Parts, Service, Repair

IGS is the world's largest independent remanufacturer and source of supply, service and depot repair of obsolete—even recently obsolete—Digital Equipment Corporation® parts, products and systems. Servicing Fortune 500 companies and many government agencies (including the United States Postal Service and NASA) we supply mission critical parts and components.

Extensive Inventory

At IGS we maintain an extensive inventory of DEC parts and equipment. Some date from as far back as the 60's, but we also support products manufactured as recently as last year. We refurbish and service these parts adding current technology when applicable. Our multimillion dollar inventory, coupled with our worldwide sourcing expertise enables us to fulfill your requirements rapidly and cost effectively.

Quality Assurance

You can't afford anything less than ZERO DEFECTS—and neither can we. That's why we maintain the most advanced test equipment and thoroughly test every part before shipment. This is why customers like the U.S. Postal Service have trusted us for years to service and supply products for their 365 sites.

Our approach to customer satisfaction is straightforward—we provide quality products, on time, at highly competitive prices coupled with unparalleled service.


24 Hour Turnaround

We provide Advance Replacement Service within 24 hours if we have the item in stock, and with 75,000 stock items, chances are we will. That stock includes an unmatched inventory of parts and components, right down to assembly level devices.

The IGS Systems Advantage

Our technical capabilities, coupled with our highly experienced sales staff enables us to cover the spectrum of our client's needs, from obsolete parts and products - to leading edge refurbished Systems, a veritable "One Stop Shop" - the only one of it's kind in the industry.

If you have any questions please contact Bobby Ahearn, CEO of IGS Systems.
(508) 866-1171 x235
Fax: 508-866-4500
Visit us at: www.decparts.com



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33 Years Made in the USA

Automatic Transfer Switch—ATS



Standard Features

- Out-Of-Phase Source Switching
- 8-15ms Switching Time
- Programmable Dropout Voltage
- Programmable Switchback Voltage
- SNMP And HTTP With DS-Series
- PCB-Based Reliability
- Reports Volts, Current, Watts, VA
- Break-Before-Make Transfer

Provide Redundancy To Single-Corded Devices With The Ability To Switch Out-Of-Phase Sources In 8 To 15ms.

Providing redundancy on the power-circuit level is critical to maintaining uptime. The ATS Series provides a simple and reliable solution for automatically sensing power loss and seamlessly switching to a backup circuit. BayTech ATS transfer switch line offers a unique approach to performing the transfer by completely severing the connection between the source and load then waiting for the zerocrossing to perform the transfer. This is the driving force behind being able to perform out-of-phase transfers with

a low-cost solution. Monitoring Power on the ATS is a unique feature which provides information about:

- Amperage Load
- (Watts) True RMS Power
- Volt-amps
- Voltage
- Internal Temperature

By combining the ATS and the DS-Series, console server alerts on power and transfers can be sent via secure SNMP V3.

DS-RPC Remote Site Management Series



Device Management

- Console Port Management
- Remote Power Control
- True RMS Voltage/Current
- SNMP Support
- HTTP Power Control
- SSHv2/SSL Secure Access
- RADIUS Authentication
- Direct TCP Port Access
- Telnet/SSH Menu Device Selection
- Device Port Naming
- Individual Port Password Assignment

BayTech's DS-RPC Remote Management Series provides secure and reliable management for your network, servers, and console ports. The DS-RPC combines the powerful combination of power management and console access. The cost-effective DS-RPC Series is meant for single connection applications. Security features such as

SSH v2, RADIUS authentication, SNMP, and user access lists per port allow system administrators to remotely manage the DS Series with greater confidence and control. The selected host module provides either secure in-band or dial-up out-of-band access to your DS-RPC Series remote management solution.